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PHARMACOPOEIAE

Edinburgh

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THE
PHARMACOPOEIA
Of the
ROYAL COLLEGE
Of
PHYSICIANS at *EDINBURGH.*

Faithfully tranſlated from the FOURTH EDITION.

With uſeful NOTES on the

Materia Medica,

And

Practical OBSERVATIONS on the PREPARATIONS,
both Simple and Compound.

To which are added

The PRESCRIPTIONS, as well *Extemporaneous* as
Officinal, in Uſe at the ROYAL HOSPITAL.

By

W. LEWIS, *M. B. F. R. S.*

LONDON:
Printed for JOHN NOURSE, at the *Lamb*, oppoſite
Katherine-Street in the *Strand.*
MDCCXLVIII.

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TO THE

READER.

A Thorough knowledge of the Materia Medica, and a ſkilful method of preparing and compounding ſimples, are allowed by all to be a moſt neceſſary part of the art of phyſic. Good medicines, properly adminiſtred, promiſe health; bad ones, or ſuch as are ill compounded, prove either productive of numerous miſchiefs, or incapable of doing any real ſervice to the ſick. Since ſo much depends upon medicines, ſurely the right method of diſpoſing and compounding them ought to be looked upon as a principal point in the art of healing. It is upon this account that the art of pharmacy has been every where cultivated by phyſicians of the moſt diſtinguiſhed abilities; inſomuch, that almoſt every principal city is furniſhed with a pharmacopœia of its own. Nor has the royal college of phyſicians in Edinburgh been wanting in this reſpect, as ſufficiently appears from the little work publiſhed with this view immediately after its inſtitution.

Pharmacy, nevertheleſs, is not exempt from the alterations of time, its improvement and progreſs, and the great variety of medicines, make ſome changes unavoidable. Hence it is, that in the Edinburgh Pharmacopœia many things are wanting, which cuſtom has introduced ſince its firſt publication; and hence likewiſe, though more contracted than almoſt any other diſpenſatory, yet many things are found in it which are now grown into diſuſe, inſomuch that it has already almoſt ceaſed being a rule to the apothecary. Leſt therefore, through the unſkilfulneſs of the compounders of medicines, the life of the ſick ſhould be in danger, or the expectations of the phyſician diſappointed; our college, conſulting the advantage of the public and their own dignity, have thought proper to publiſh this edition of their pharmacopœia corrected and enlarged, as a ſtandard rule for the apothecaries of this city to follow in compounding medicines: an acceptable work both to the patient and phyſician.

In preparing this new edition, we have generally followed the old one, and have not departed from it, unleſs where neceſſity obliged, or ſome manifeſt advantage perſuaded us. We have likewiſe all along had an eye to the more celebrated diſpenſatories of other nations, leſt, ſlighting the labours of others, we ſhould ſeem to depend too much upon our own abilities.

We have digeſted in an eaſy and compendious method a ſufficiently large catalogue of officinal plants, under their moſt uſual names; as alſo of the animal and mineral ſubſtances uſed in phyſic; pointing out the parts employed for medicinal purpoſes. Some articles we have lopt off, as not differing from others in virtue; or which had been introduced by the credulity or ſuperſtition of our anceſtors; but we have ſtill left a great many perhaps to be expunged by poſterity; judging it more convenient that our catalogue of ſimples ſhould be full and even redundant, than any ways deficient or ſcanty.

Of the ſimple diſtilled waters we have rejected not a few: to the compound one or two new ones are added, which will not only keep better, but contain in a greater degree the reſpective virtues of the plants; particular care being all along taken to commit nothing to diſtillation, which will not give over ſome virtue to the water.

We have added a great many tinctures. Tinctures contain the efficacious part of moſt ſimples, in a ſmall compaſs; and hence, as their doſe, by this means becomes leſs, this form proves generally agreeable to the patient.

In the making of ſyrups, we have ſhewn which are moſt conveniently prepared by decoction, and which by infuſion; and by what means the virtue of aromatics, which is uſually loſt in theſe kinds of preparations, may be preſerved.

We have likewiſe inſerted into our pharmacopœia ſeveral extemporaneous compoſitions, taken from the preſent practice, to ſave the trouble of the preſcriber in directing them: it were to be wiſhed, that, from the unanimous conſent of phyſicians, more of this kind could have been added.

To moſt of the ſections are ſubjoined general rules for the preparation of the medicines contained therein; nor have we thought the ſmalleſt matters unworthy of our regard; ſince it is certain, that in pharmacy, the ſlighteſt errors may produce very bad conſequences.

Upon the whole, that we might avoid the incumbrance of too great a number of medicines, and the inconveniencies of too ſcanty a collection, many obſolete, uſeleſs and incongruous ones are lopt off, and ſome new ones added, of no ſmall utility. In the emendation of compoſitions, the utmoſt care and diligence has been employed;

ſome of no conſequence being rejected, and others added, which may better anſwer the intention of the preſcriber: ſome which long cuſtom has familiarized, and antiquity as it were rendered ſacred, remain untouched; but moſt are contracted: and the utmoſt caution has been taken, that ſuch compoſitions as are now retained, or ſubſtituted to others, may, if they do not excel, at leaſt equal, thoſe omitted. Throughout the whole we have conſulted utility rather than pomp; and at the ſame time endeavoured to abridge the labour of the apothecary, avoiding the intricate cumber which moſt of the preſent pharmacopœias labour under.

That theſe our endeavours may happily tend to the advantage of the publick, the health of the ſick, and the advancement of medicine, is our joint and earneſt wiſh.

Given at *Edinburgh*,
from the College of
Phyſicians, *Nov.* 30th,
MDCCXXI.

To the READER.

In this fourth edition of our pharmacopœia we have inſerted ſome new compoſitions, and altered many of the old ones; nevertheleſs, ſince medicine receives daily improvements, and the art of pharmacy can only by degrees get clear of its errors; it is not to be doubted, but there remains ſtill room for enlarging and farther reforming pharmacopœias.

Edinburgh, Feb. 13th,
MDCCXLIV.

THE

PREFACE.

THE learned editors of the Edinburgh Diſpenſatory have, in the preceding pages, given ſo clear and full an account of the ſteps which they have taken in reviſing and correcting the ſeveral editions of this diſpenſatory from its firſt appearance in the year 1699, *as not to leave room for any addition of this kind. It would be highly impertinent to attempt any encomium upon a book which has been ſo well received by the public; and not leſs ſo, to trouble the reader with the particular motives which induced us to undertake the following work, or the reaſons for our delaying its publication to this time. Nevertheleſs, as the authors have thought it convenient to preface the original, ſomething of the ſame kind will be expected with regard to the preſent tranſlation and commentary.*

With regard to the tranſlation, we have endeavoured, as far as poſſible, to keep up cloſe to the original, not only in the expreſſion, but likewiſe in the manner of ranging the ſeveral articles; and this we were induced to do, not ſo much out of deference to the authority of the compilers, as from a firm perſuaſion, that the method here followed is ſuperior in point of perſpicuity to that which uſually obtains in tranſlations of books of this kind.

With

With regard to the additional matters, they are warranted from the manifeſt deſign of the book itſelf, or tend to make it more univerſally uſeful.

The copiouſneſs of the catalogue of medicinal ſimples neither required, nor indeed would admit, without a manifeſt incumbrance, of any additional articles; but as the college have only deſcribed the ſeveral ſimples by the moſt commonly received appellations, a few excepted, the ſynonymous names and deſcriptions uſed by the moſt celebrated botaniſts are added.

To the capital articles of the Materia Medica we have ſubjoined, by way of note, a deſcription of the ſimple, the criteria of its goodneſs, the marks which diſtinguiſh the genuine from the baſe; and in many caſes, its ſolvents, &c. chemical analyſis where uſeful, the moſt advantageous method of preparing and exhibiting it, its medicinal virtues, &c. taken chiefly from our own experience, obſerving all along, where we build upon the authority of others, to cite the original author at the bottom of the page.

With regard to the preparation and compoſition, which compoſe the body of the work, we have given an account of all the material alterations which have been made from the preceding edition, frequently pointing out the grounds on which we conceive ſuch alteration is made, and have likewiſe ſubjoined, in their proper places, all the officinal compoſitions in uſe at the royal hoſpital at Edinburgh, that differ from thoſe received by the college. In theſe the reader will often ſee many notable improvements upon the formula, whoſe place they are intended to ſupply.

We have likewiſe endeavoured, according to the utmoſt of our abilities, to explain the method of conducting the ſeveral proceſſes in the fulleſt manner, eſpecially where the brevity of the original work made this neceſſary, or the proceſs itſelf was difficult, hazardous, or liable to miſcarry, from want of due experience in the operator.

We have likewiſe compared ſeveral of the proceſſes with thoſe deſcribed in other diſpenſatories, and whenever any doubt has occured, to which the preference ought to be given, have committed them to trial, and related the hiſtory and event of each experiment.

We have alſo added, by way of appendix, the extemporaneous compoſitions of the royal hoſpital. This addition, it is conceived, will prove very acceptable to the reader, eſpecially as the compilers expreſs their wiſhes to have inſerted ſomething of this kind themſelves.

To conclude, if it ſhall appear, that our endeavours have any ways facilitated the practical part of pharmacy, by obviating the difficulties and inconveniencies which medicinal preparations are on many accounts liable to, or contributed to the improvement of this valuable branch of the healing art, by weeding out ſome of its numerous errors, or ſtarting ſome uſeful improvements, we ſhall not be thought to have wantonly increaſed the number of books on this ſubject, but meet with a favourable acceptance from the public.

The NAMES of the FELLOWS, HONORARY FELLOWS and LICENTIATES Of the ROYAL COLLEGE Of PHYSICIANS in EDINBURGH.

FELLOWS.

JOHN CLERK, *Præſes & Elector.*
William Leirmont.
David Cockburn.
Robert Lowis, *Elect.*
John Stevenſon, *Elect.*
William Cochrane, *Elect.*
John Lermont, *Elect.*
David Kinneir.
William Porterfield.
John Rutherford, *Prof. Med. in Acad. Edinb. Cenſor.*
Charles Alſton, *Reg. Prof. Botan. Elect. & Collegio ab Epiſtolis.*

Andrew

Andrew St. Clair, *Med. Reg. Prof. Med. in Acad. Edinb. Elect.*

Andrew Plummer, *Prof. Med. & Chem. in Acad. Edinb. Cenſor.*

James Dundas,

Alexander Cunningham.

Adam Murray.

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John Pringle, *Med. Reg. ad exercitum.*

John Baird.

David Foulis, *Collegio ab ærario.*

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Sir Hans Sloane, *Bart.*

Alexander Ruſſel.

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John Johnſtoune, *Prof. Med. in Acad. Glaſguen.*

Thomas Simſon, *in Acad. Andreap. Med. Prof. Candoſs.*

LICENTIATES.

John Drummond.

James Houſton.

William Græme.

William Macfarlan.

Alexander Martin.

David Horſeburgh.

George Young.

John Boſwall.

THE WEIGHTS and MEASURES, With their CHARACTERS.

gr.	a grain		
℈	a ſcruple	contains	twenty grains.
ʒ	a dram	contains	three ſcruples.
℥	an ounce	contains	eight drams.
℔	a pound	contains	twelve ounces.

By *a ſpoonful* is meant half an ounce in ſyrups, and three drams in diſtilled waters.

A gallon contains *eight pounds.*

Ana imports, that each of the preceding ingredients is to be taken in the quantity following the word.

p. æ.	ſtands for	partes æquales.	that is	equal quantities.
q. v.	ſtands for	quantum vis.	that is	what quantity you pleaſe.
q. s.	ſtands for	quantum ſufficit.	that is	as much as is ſufficient.
ſ. a.	ſtands for	ſecundum artem	that is	according to art, when the manner of compounding is left to the direction of the apothecary.
F.	ſtands for	Fiat	that is	Let it be made.
B. A.	ſtands for	Balneum arenæ	that is	a ſand-heat.
B. M.	ſtands for	Balneum mariæ	that is	a water-bath.

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THE

THE EDINBURGH DISPENSATORY.

SECTION I.

MEDICINAL SIMPLES.

VEGETABLES.

Names generally received, and the parts in uſe.	*Synonymous names and deſcriptions.*
Abies, *the fir-tree*; *its* wood, tops *and* reſin.	
Abrotanum mas, *male ſouthernwood*; the herb.	*The greater narrow-leaved male ſouthernwood, C. B.*
Abrotanum fæmina, *female ſouthernwood*; the herb.	*Chamæcypariſſus. Lavender-cotton. Female abrotanum, with roundiſh leaves, C. B. Roundiſh-leaved ſantolina, Tournefort.*
Abſinthium vulgare, *common wormwood*; the herb.	*The greater common wormwood, J. B. Broad-leaved or Pontic wormwood, Ger.*

Abſinthium Romanum, *Roman wormwood*; the herb[a].	*Fine-leaved hoary wormwood of Pontus, C. B.*
Acacia vera, *Egyptian thorn*; *its* inſpiſſated juice *called true acacia*[b].	*The inſpiſſated juice of the unripe fruit of the ſcorpion-ſena-leaved acacia, C. B.*
Acetoſa vulgaris, *common ſorrel*; the herb, roots *and* ſeeds.	Oxalis. *Meadow-ſorrel, C. B. Common ſour dock, Raii ſynopſ.*
Acetoſella, *wood-ſorrel*; the herb.	Lujula. *Common ſour trefoil, C. B.*

[a] Roman wormwood has neither ſo ſtrong a ſmell, or ſo bitter a taſte, as the common. A conſerve of it is reported to have been of great ſervice in dropſies: but the ſea-wormwood is generally uſed inſtead of this; not, on account of its being more pleaſant and palatable *; but becauſe it is cheaper and more eaſily procured. Nevertheleſs, as the former has a greater ſhare of medicinal virtues than the latter, this exchange is not to be admitted, unleſs in particular circumſtances, where it is expreſsly ordered.

[b] The true acacia, which comes from Egypt, in cakes, wrapt up in bladders, weighing each from four to eight ounces, appears outwardly of a deep brown colour, inclining to black; but inwardly, ſomewhat reddiſh. It is of a firm conſiſtence, ſoftens in the mouth, and has a rough, but not diſagreeable taſte. The Egyptians make uſe of it in ſpitting of blood, and in hæmorrhagies: they likewiſe employ it in collyriums for ſtrengthening the eyes, and preſerving them from inflammations; and in gargariſms for quinſeys: *Alpinus* aſſerts that nothing is of greater ſervice in the falling down of the anus and uterus, than a ſolution of the inſpiſſated juice in a decoction of the leaves and flowers. The true Egyptian acacia is rarely to be found in our ſhops: what is uſually ſold under that name is the inſpiſſated juice of unripe ſloes. This is harder, heavier, blacker and ſharper than the true ſort †.

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* *Botan. officinal. pag.* 7.

† *Geoffroy de Materia Med. tom.* ii. *pag.* 716.

Acorus verus, *true acorus*; the roots [c].	Calamus aromaticus. *The calamus aromaticus of the ſhops*, C. B. *The ſweet-ſmelling flag of Ray.*
Adianthum verum, *true maiden-hair*; the herb [d].	Capillus veneris. *Coriander-leaved adianthum*, C. B.
Agallochum; the wood.	Lignum aloes. *Wood of aloes of the ſhops*, C B.
Agaricus, *Agaric* [e].	The fungus of the larch-tree.

Ageratum,

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[c] The root of calamus aromaticus is ſomewhat flatted on the ſides, crooked, full of joints, of a reddiſh yellow colour externally, white and of a ſpongy texture within, of an acrid bitteriſh taſte, and an aromatic flavour. *Geoffroy* * ſays, that it yields a conſiderable quantity of eſſential oil. It is generally looked upon as a warm ſtomachic root, and, as ſuch, ſometimes made uſe of in practice.

[d] This is the produce of the ſouthern parts of France, and not being ſo eaſily procured as the Trichomanes, or Engliſh maiden-hair, is ſupplied by it. Some of the more induſtrious artiſts have, in the ſyrup of maiden-hair, ſubſtituted a ſtill cheaper ingredient in the place of them both; and probably not to the diſadvantage of the medicine, both the true and the falſe maiden-hair, yielding little more than an inſipid mucilaginous juice, greatly reſembling the ſubſtitute made uſe of.

[e] This fungus is an irregular, ſpongy ſubſtance, extremely light, very friable, and of a ſnowy whiteneſs, except the cortical part, which is of a browniſh colour, and is uſually taken off before the agaric is brought to the ſhops. The beſt ſort is as deſcribed above; but there is an inferior kind of a bad colour, full of red fibres or veins, and which upon cutting proves hard and gritty. Agaric, upon firſt taſting, is ſweetiſh, but ſoon proves bitter, acrid and very nauſeous. Mr. *Boulduc* † obtained from this drug, by means of ſpirit of wine, a tincture of an extremely diſagreeable and nauſeous taſte; one drop of which being put on the tongue occaſioned vomiting, and left behind it a diſreliſh for all kind of food, &c. for a whole day. Two ounces of agaric yielded to ſpirit ſix drams and a half of a reſi-

* *Mat. Med. tom.* ii. *p.* 4.

† *Mem. del acad. roy. des ſcienc. pour l'ann.* 1714.

Ageratum, *maudlin*; the herb.	Eupatorium Meſues. *Ageratum with jagged leaves, Caſparis Bauhini.*
Agnus caſtus, *the chaſte tree*; the ſeed.	Vitex. *Agnus caſtus with narrow hemp-like leaves, C.B.*
Agrimonia, *agrimony*; the herb.	Eupatorium Græcorum & Avicennæ. *Eupatorium of the ancients, C. B.*
Alchimilla, *ladies mantle*; the herb.	*Common ladies mantle, C. B. Ladies mantle, and in the north bearsfoot, R. ſyn.*
Alkekengi, *winter cherries*; the fruit.	Halicacabum. *Bladder ſolanum, Caſparis Bauhini.*
Alliaria, *ſauce-alone*; the herb.	*Jack by the hedge, Raii ſynopſis.*
Allium, *garlick*; the root.	*Manured garlick, C. Bau.*
Alnus nigra, *black alder*; the bark.	Frangula. *Black-berry-bearing alder, Caſp. Bauhini.*
Aloe caballina, *horſe aloes*; the inſpiſſated juice.	*The inſpiſſated juices of the Guinea caballine aloe, like the common, but ſpotted all over, Commel.*
Aloe hepatica, *hepatic aloes*; the inſpiſſated juice.	
Aloe ſuccotrina, *ſuccotrine aloes*; the inſpiſſated juice[f].	*The concrete juice of the ſuccotrine, narrow-leaved prickly aloe-plant with purple flowers, Breyn. Prodrom.*

Alſine,

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nous extract: but on treating it with water, no ſolid extract was obtained. This drug was formerly of great eſteem in medicine; but the preſent practice has almoſt rejected its uſe, on account of the manifeſt inconveniencies which attend its exhibition. Nevertheleſs, Mr *Boulduc* ‡ ſays, that an extract of it, made with water acuated with ſalt of tartar, is an effectual and ſafe purge.

[f] Aloes is the inſpiſſated juice of the plant aloe. There are various ſorts of it in the ſhops, which are diſtinguiſhed, either from the places whence they are brought, from the ſpecies of the plants which yield them, or from ſome difference in the juices themſelves.

‡ *Ibid.*

The

Alſine, *chickweed*; the herb.	*Middle chickweed, C. B. middle, or leſſer chickweed, Raii ſynopſis.*
	Althæa,

The ancients reckoned but two ſorts; the one was pure, and of a yellowiſh colour, inclining to red, reſembling the colour of a liver, and thence named hepatic; the other was full of impurities, and ſuppoſed to be only the droſs of the better ſort. *Geoffroy* *, *Commelinus* †, *Dale* ‡, and the more accurate writers on the *Materia Medica*, range the different ſorts of aloes found at preſent in the ſhops, in three claſſes, the ſocotorine, or finer; the common, or ſecond ſort, which is leſs eſteemed; and the fetid, which is the worſt of all: theſe two laſt ſorts, when pure, are likewiſe called hepatic; and when very impure, caballine or horſe aloes. The ſocotorine is bright, ſhining, clear, friable in the winter, ſomewhat pliable in the ſummer, of a yellowiſh red colour, with a purple caſt: the pureſt ſort of this kind of aloes, when reduced to powder, is of a bright golden colour, of an aromatic, bitter taſte, and ſmells not unlike myrrh. The common ſort of aloes is leſs clear and bright than the former, of a darker colour, and more compact texture; it is likewiſe drier, of a diſagreeable ſmell, and an intenſely bitter taſte. The third and worſt ſort of aloes, properly called caballine, has been uſually given only to horſes: this is eaſily diſtinguiſhed from the foregoing ſorts, by its ungrateful ſtrong ſmell, although, in other reſpects, it agrees pretty much with the common aloes; ſometimes it is prepared ſo pure and bright, as not to be diſtinguiſhed by the eye from even the ſocotorine. Mr. *Boulduc* || obſerves that the ſocotorine aloes contains leſs reſin than the hepatic; and that the reſin has little, if any, purgative virtue: he aſſerts likewiſe, that the former purges more, and with greater irritation than the latter. This obſervation, which appears to be perfectly juſt, points out the uſes to which the different kinds of aloes may be applied: the finer ſort is propereſt to promote or excite the menſtrual flux, or to anſwer the like purpoſes, while the inferior ſorts are better calculated

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* *Mater. Med. tom.* ii. *p.* 648.

† *Prælud. botan.* 40.

‡ *Pharmacolog. p.* 248.

|| *Mem. del acad. roy. des ſcienc.* 1708.

Althæa, *marſhmallow*; the leaves, root *and* ſeed.	Biſmalva, Ibiſcus. *The althæa of Dioſcorides and Pliny, C.B. Common marſhmallows, Raii ſynopſis.*
Ammi verum, *true ammi*; the ſeed.	*Candian ammi, Ger. & Park. Ammi with ſeed of ſmallage, C.B. True biſhops-weed.*
Ammi vulgare, *common biſhopſweed*; the ſeed.	*The greater ammi, Caſparis Bauhini.*
Ammoniacum gummi, *the gum called ammoniacum* [g].	

Amomum

to act as a common purge. With regard to the ſolubility of aloes, it entirely diſſolves in boiling water; but a conſiderable portion ſubſides upon the menſtruums growing cold. The ſame inconvenience is obſervable in ſolutions of this drug made with wine, which on keeping throw off to the ſides and bottom of the containing veſſel, a conſiderable part of what they had formerly taken up; while on the other hand, proof ſpirit not only almoſt entirely diſſolves the aloes, if pure, but keeps the whole ſuſpended. If the reader deſires any farther account of this celebrated drug, he is referred to *Herman. Cynos. Mat. Med. p.* 689. *Burggrav. Lex. Med. univerſal.* and *Geoff. Mat. Med. tom.* ii. *p.* 648.

[g] Ammoniacum is a concrete juice, between a reſin and a gum, brought from the Eaſt Indies, uſually in large maſſes, compoſed of little lumps or tears, of a milky colour, but ſoon changing, upon being expoſed to the air, of a yellowiſh hue. The better ſorts of this juice very much reſemble, in appearance, the finer kinds of benzoine. It has a nauſeous ſweet taſte, followed with a bitter one; and a peculiar ſmell, ſomewhat like that of galbanum, but more grateful, or according to *Pomet* *, like that of opopanax. It ſoftens in the mouth, and grows of a whiter colour upon being chewed. Thrown upon live coals, it burns away in flame. It is in ſome meaſure ſoluble in water and in vinegar, with which it aſſumes the appearance of milk. For internal uſe, ſuch tears as are large, dry, free from little ſtones, ſeeds, or other impurities, are to be choſen. The coarſer kind of ammoniacum is purified by ſolution and cola-

* *Hiſt. des drogues (nouvelle edit. par Pomet le fils) tom.* ii. *p.* 30.

ture,

Amomum verum, *true amomum*; the ſeed[h].	*Amomum in the bunch, Caſp. Bauhini.*
Amomum vulgare, *common ſtone-parſley*; the ſeed.	Siſon. *The Macedonian parſley of Fuchſius, R. ſynopſ. Aromatic ſium, Tourn.*
Amygdalus amara, the *bitter almond-tree*; its fruit.	*The kernels of the fruit of the manured almond-tree, Caſparis Bauhini.*
Amygdalus dulcis, the *ſweet almond-tree*; its fruit.	
Anacardia, *anacardium*; the fruit[i].	*Oriental anacardium, Caſp. Bauhini. Malaca-bean.*
Anchuſa, *alkanet*; the root[k].	Alcanna. *Purple-flowered alkanet, C.B. Alcibiadon, Ger.*

Anethum,

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ture, and then carefully inſpiſſating it; but unleſs this be artfully managed, the gum will loſe a conſiderable deal of its eſſential oil. The ſtrained gum of the ſhops is a grievous abuſe, being a compoſition of ingredients much inferior in virtue and price. The genuine gum ammoniac is, according to *Geoffroy*[†], the juice of an umbelliferous plant growing in Africa, which flows from wounds made in it for that purpoſe: his conjectures are founded on the leaves and ſeeds, uſually found among the tears.

[h] The ſeeds of the true amomum are brought to us from the Eaſt Indies in roundiſh pods, divided into three parts. The ſeed is rough, angular, aromatic, of a dark colour without ſide, and white within, ſolid, but eaſily pulverable, in which reſpect it manifeſtly differs from cardamom ſeeds, with which it is confounded in the ſhops. It yields, upon diſtillation, a conſiderable quantity of an aromatic oil.

[i] Anacardium is the fruit of a tree, of a black ſhining colour, about an inch in length, and in ſhape like a bird's heart, growing in the Eaſt Indies. It is compoſed of two barks or ſhells, between which is a fungous ſubſtance, containing a dark-coloured cauſtic oil; and of a kernel, of a white colour and ſweetiſh taſte.

[k] There are two kinds of this root mentioned by authors: one is brought from the Levant; and the other from Italy and France: the latter is here deſigned, and therefore ſhall be alone taken notice

[†] *Mater. Med. tom.* ii. *p.* 603.

Anethum, *dill*; the herb, *and* ſeed.	*Garden dill, Caſp. Bauhini.*
Angelica ſativa, *garden angelica*; the root, leaves *and* ſeeds.	*Garden imperatoria, Tourneſ. Garden angelica, C. B.*
Anime. The reſin [l].	
Aniſum, *aniſe*; the ſeed.	*The aniſe of the herbaliſts, C. B. the apium called aniſe, with ſweet-ſmelling ſeeds, Tourn.*
Anthora, *counterpoiſon monks-hood*; the root.	Antithora. *Anthora, or wholſome wolfs-bane, C. B. Yellow helmet-flower.*
Aparine, *gooſe-graſs*; the herb.	Clivers. *Common clivers, C. Bauhini, Raii ſynopſis.*
Apium, *ſmallage*; the roots *and* ſeed.	Eleoſelinum. *Marſh apium of the ſhops, C. B.*
Aquilegia, *columbine*; the leaves *and* ſeed.	*Wild columbine, C. B. Blue columbine, Ger. Common ſingle columbine, Park.*
Arabicum gummi, *gum Arabic* [m].	

Areca,

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of: the former is not known in our ſhops. The root in uſe is of a red colour without, and white within, with little blue heads; and being rubbed on the hand, tinges it of a vermilion colour. As the colour, for the ſake of which it is uſed, lies in the bark, the ſmaller roots are to be preferred: they ſhould be choſen new, clean, dry, yet ſo pliable as not to be brittle *.

[l] Anime is a tranſparent reſin, of a white colour, inclining to yellow. It flows from a tall tree which grows in America. Burnt on coals, it quickly conſumes, emitting an agreeable ſmell. The Braſilians apply the fume of it for diſorders of the head from colds; and are of opinion that it is of ſervice to other parts of the body likewiſe, when affected by the ſame cauſe.

[m] Gum arabic is a concrete gummy juice which drops from the tree that yields the true acacia. It is of a bright, pale yellow, or

* *Pomet hiſt. des drogues, vol.* i. *p.* 90. *Lemery, dict. des drogues, Savary dict. de commerce.*

yellow

Areca, *Indian nut*; the inſpiſſated juice called catechu, and terra Japonica, *or Japan earth* [n].

Argentina,

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yellow colour, brittle, without any ſmell or taſte, ſomewhat wrinkled on the outſide, and ſhining within like glaſs. It grows ſoft in the mouth, ſticks to the teeth, and readily diſſolves in water, but not in ſpirit of wine, or in oils. In the fire it burns to a coal, but does not flame. The beſt ſort of this gum is dry, tranſparent, of a white or pale yellow colour, and free from dirt. The true gum arabic is rarely to be met with in the ſhops: gum ſenega, which is brought from the coaſts of Guinea, is uſually ſold for it. This greatly reſembles the other; and probably, as *Dale* † conjectures, exudes from a tree of the ſame kind: it is generally in large pieces, rough on the outſide, and in theſe circumſtances poſſibly conſiſts the only difference between the two; although the former is held to be the purer and finer gum, and therefore choſe for medicine; and the latter the ſtrongeſt, moſt ſubſtantial and cheapeſt, and conſequently more employed in certain trades and buſineſſes.

[n] The Japan earth of the ſhops, is a hard, pulverable, gummy-reſinous juice, outwardly of a reddiſh colour, inwardly of a ſhining dark brown colour, almoſt black, with a caſt of red, of a bitteriſh aſtringent taſte, followed by a ſweet and more grateful one. It is brought from Malabar, Surat, Pegu, and other parts of India, but is not the produce of Japan; nor is it an earth; for when pure, it communicates a dark brown colour to water, and diſſolves in it, ſo as to paſs a ſtrainer, without leaving any feces: great part of it likewiſe proves ſoluble in ſpirit of wine, to which it gives a ſomewhat brighter tincture, than to water. Powdered and thrown on a red hot iron, it emits a copious fume, melts, takes fire, ſometimes flames, and leaves behind a ſmall portion of greyiſh aſhes. Some authors are of opinion, that this is not the juice of any one particular tree, but is drawn indifferently from any, or all of the ſpecies of acacia, and from the fruit of a kind of palm which is very like a date *. It is ſaid that the Indians prepare this juice from

† *Pharmacolog, p.* 343.

* *Geoff. Mat. Med. tom.* ii. *p.* 724.

Argentina, *ſilver-weed*; the herb.	Potentilla, Anſerina. *Baſtard cinquefoil called ſilver-weed, Raii ſyn. Wild tanſy.*
Ariſtolochia longa, *long birthwort*; the root.	*The true long-rooted birthwort, Caſparis Bauhini.*
Ariſtolochia rotunda, *round birthwort*; the root.	*The round birthwort with a dark (almoſt black) purple flower, Caſp. Bauhini.*
Artemiſia, *mugwort*; the herb.	*The greater common mugwort, Caſpar. Bauhini.*
Arthanita, *ſow-bread*; the root.	Cyclamen. *The common round-leaved autumnal ſow-bread, Park. ſow-bread with round leaves purpliſh underneath, C. Bauhini.*
Arum, *wake-robin*; the root.	*Black-ſpotted arum, C. B. Common arum, Gerard. Cuckow-pint.*
Aſarum, *aſarabacca*; the roots *and* leaves.	*Common aſarabacca, Parkinſon.*
Aſpalathus, the wood.	
Aſparagus, *ſparagus*; the root.	*Garden aſparagus, Caſparis Bauhini.*
Aſſa fœtida, *fetid aſſa*; the gummy-reſin [o].	*The concrete juice of the root of Hingiſèh, or the aſſa fœtida plant, Kæmpf. amœnit. exot.*

Atriplex

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the areca nut, before it is quite ripe, by boiling the nut in water, impregnated with ſome oyſter-ſhell-lime, till the liquor has acquired a dull red colour: the decoction is then decanted from the feces, and inſpiſſated to a proper conſiſtence.

[o] Aſſa fœtida is brought to us in large maſſes from Perſia and the Eaſt Indies. It is a compact, gummy-reſinous ſubſtance, ſoft and pliable like wax while new, compoſed of various little ſhining lumps or grains, which are partly of a whitiſh colour, partly reddiſh, and partly of a violet hue. It ſmells like garlick, but much ſtronger, and has a bitter, acrid, biting taſte. Thoſe maſſes are accounted beſt, which are clear, of a paliſh red, and variegated with a great number of elegant white tears. When it firſt exudes from the

wounded

Atriplex ſativa, *garden orach, or arrach*; the herb.	*White or pale-green garden orach, C. B.*
Atriplex fœtida, *ſtinking orach*; the herb *and* ſeed.	*Fœtid chenopodium, Tournef. fetid blitum, called vulvaria, Raii ſynopſis.*
Avena, *oats*; the ſeed.	*Common, or white oats, C. B.*
Aurantia malus, *orange-tree*; the flowers, fruit, *and* rind of the fruit.	*The greater orange-tree, C. B. the orange-tree with acid fruit.*
Auricula Judæ, *Jews-ear*; the fungus of the elder-tree.	
Auricula muris, *mouſe-ear*; the herb.	Piloſella. *The greater creeping hairy mouſe-ear, C. B.*
Balſamita mas, *coſtmary, or alecoſt*; the herb.	Coſtus hortorum. *Corymbiferous garden mint, C. B.*
Balſamum Copaiba, *balſam of Copaiba* [p]; the reſin.	*American balſam, C. B. white American balſam, Park.*

Balſamum

wounded root, it is liquid and white like milk; but upon being expoſed to the air grows of a browniſh colour, and gradually acquires different degrees of conſiſtency. It loſes with age of its ſmell, and likewiſe of its ſtrength, a circumſtance to be particularly regarded in doſing this medicine. The pureſt white tears, being freſh cut, are of a yellowiſh white colour, which, in a little time after, changes to a fine red tending to a violet. This drug does not entirely diſſolve, either in an aqueous or a ſpirituous menſtruum, but ſomewhat more is taken up by the former than by the latter. Digeſted in proof ſpirit, a turbid ſolution is obtained, which paſſes the filter, and upon examination is found to participate largely of the aſſa fœtida. With rectified ſpirit, a tranſparent tincture is extracted, which ſmells very ſtrong, but does not appear to hold ſo much of this juice as the former. Put on a red hot iron, it melts, emits a ſtrong-ſmelling fume, catches flame, and burns almoſt entirely away, leaving but few aſhes. See the deſcription and natural hiſtory of this plant, with the method of collecting the aſſa fœtida, in *Kæmpf. Amœnitat. exot. faſcic.* 2. *obſ.* 5. *p.* 535.

[p] Balſam of Copaiba is a liquid reſinous juice, imported from the Braſils. While freſh, it is of the conſiſtence of oil; but grows

thicker

Balſamum Gileadenſe, *balm of Gilead*[q]; the reſin.	Opobalſamum, *Balſamum Judaicum, e Mecha verum, Oleum balſami. The true balſam of the ancients, Park.*
Balſamum Peruvianum, *balſam of Peru*[r]; the reſin.	*Black balſam of Peru, Parkinſon.*

Balſamum

thicker upon keeping. It is of a white colour, inclining to yellow, of a bitter aromatic taſte, and a peculiar ſmell. Upon diſtilling this balſam with water in the common manner, I have found it to yield ſometimes more than half its weight of a clear, colourleſs, eſſential oil, a reſin, of a yellow colour, inclining to green, remaining behind in the ſtill.

[q] Balm of Gilead is a liquid reſin, of a whitiſh or yellow colour of a fragrant ſmell, and of a penetrating aromatic taſte. *Geoffroy* reſembles the ſmell of this balſam to that of citrons, others to a mixture of roſemary and ſage flowers. I have occaſionally met with a curious balſam ſomewhat reſembling the latter in point of ſmell: it was exceedingly fragrant, limpid and thin; and dropt on water, ſpread itſelf all over the ſurface, imparting to it a conſiderable degree of its ſmell and taſte; the groſſer part which remained on the top of the water, was ſo tenacious as to be eaſily taken up at once with the point of a needle, which is reckoned by ſome as a characteriſtic of the true balſam *.

[r] There are two kinds of balſam of Peru; one of a white colour; the other of a dark brown: the latter is here intended, the firſt being rarely to be met with. It is a fluid, reſinous juice, of the conſiſtence of turpentine, of a reddiſh colour inclining to black, and of a ſubacrid, biting taſte. Its ſmell is by ſome reſembled to that of benzoine. Diſtilled with water, it yelds a ſmall quantity of very fragrant oil. This balſam is ſaid † to be obtained from a tree which grows in Peru, and the hotter parts of America, by boiling its tops and bark in water for a certain time, and ſuffering the liquor to cool; when the balſam, which is found ſwimming upon the ſurface, is carefully ſkimmed off. But the balſam of Peru, which I have hitherto

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* *Alpin. de balſamo dialog. ad finem edition. novæ medicin. Ægyptior. pag.* 104.

† *Geoff. Mat. Med. tom.* ii. *p.* 481.

had

Balſamum Tolutanum, *balſam of Tolu*[f]; the reſin.	
Bardana major, *the greater burdock*; the roots *and* ſeed.	Lappa major. *The great burdock, or arcium of Dioſcorides, C. B. Raii ſynopſ.*
Bdellium; the gummy-reſin[s].	
Becabunga, *brooklime*; the herb.	Anagallis aquatica. *Water-pimpernell. Roundiſh-leaved water ſpeedwell, Moriſon. hiſt. plant. Caſp. Bauh.*
Bellis major, *greater daiſy*; the herb.	*The greater wild white daiſy, with leaves growing on the ſtalk, Caſparis Bauhini.*
Bellis minor, *leſſer daiſy*; the herb.	*The fourth and fifth wild daiſy, C. B.* Conſolida minima.

Benzoinum,

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had an opportunity of examining, was ſpecifically heavier than water, and therefore muſt have been obtained by ſome other means than that above-mentioned.

[f] This balſam is of the conſiſtence of the thicker kinds of turpentine, but upon keeping, grows hard and brittle. It is of a light reddiſh, inclining to a golden colour, of a grateful taſte, and fragrant ſmell, ſomewhat like that of lemons. It is brought over in little gourd-ſhells from Tolu in America ‡.

[s] Bdellium is a gummy reſinous tear of a tree, which concretes into glebes of different figures and magnitudes. It is of a brown ruſſet colour, and in appearance ſomewhat reſembles common myrrh. Upon cutting a piece, it looks ſomewhat tranſparent, and, as *Geoffroy* || juſtly obſerves, like glue. It is not eaſily pulverable, grows ſoft and tenacious in the mouth, and ſticks to the teeth, has a bitteriſh taſte, and not a diſagreeable ſmell, particularly when ſet on fire. It readily catches flame, burns a conſiderable time, with a crackling noiſe; during which, little ſtreams of liquid matter ſeem to ooze out at its ſurface. Pure bdellium is partly ſoluble in an aqueous, and partly in a ſpirituous menſtruum. It is brought from Arabia, Media, and India. The larger and darker-coloured maſſes of this gum are broke to pieces, and ſold for ſagapenum.

‡ *Dalæi Pharmacolog. p.* 278.

|| *Geoff. Mat. Med. tom.* ii. *p.* 624.

Benzoinum, *benzoine*; the reſin[t].	
Berberis, *barberry-buſh*; the bark, fruit *and* ſeed.	Oxyacantha Galeni. *The hedge barberry, C. B.*
Beta, *beet*; the herb.	
Betonica vulgaris, *common betony*; the leaves, tops, *and* flowers.	*Common purple-flowered wood-betony, Raii ſynopſis.*
Betula, *birch-tree*; the bark *and* ſap.	
Biſtorta, *biſtort or ſnake-weed*; the root.	*Biſtort with a leſs curled root, C.B. Common greater biſtort, Raii ſynopſis.*
Bonus Henricus, *Engliſh mercury*; the herb.	Lapathum unctuoſum, *Tota bona, Mercurialis. The firſt wild broad-leaved or unctuous dock, C. B.*
Borago, *borage*; the flower.	*Broad-leaved bugloſs, called borage, Caſp. Bauhini.*
Botrys, *Jeruſalem-oak*; the herb.	*Ambroſia. Botrys ambroſoides, Caſparis Bauhini.*
Braſſica ſativa, *cabbage and coleworts*; the leaves.	*Caulis. White headed cabbage and colewort, C. B.*
Braſſica marina, *ſea colewort*; the leaves.	Soldanella. *Leſſer ſea ſoldanella, C. B. Sea bindweed.*
Bryonia alba, *white bryony*; the root.	*Rough or white bryony, with red berries, C. B. Raii ſyn.*
Bugloſſum ſativum, *garden bugloſs*; the roots, leaves *and* flowers.	*The greater narrow-leaved bugloſs, Caſparis Bauhini.*

Bugula,

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[t] Benzoine is a hard, dry, brittle reſin, brought to us from the Eaſt Indies in large maſſes, compoſed of white and light brown pieces, or yellowiſh ſpecks, breaking very eaſily when rubbed between the hands, and yielding a moſt pleaſant ſmell. That which is cleareſt from droſs and other impurities, ſmells well, and looks whiteſt, is accounted the beſt. The pureſt ſort readily and entirely diſſolves in rectified ſpirit.

Bugula, *bugle, or middle conſound*; the herb.	Conſolida media. *The middle blue meadow conſolida*, C.B.
Bunias, *navew*; the ſeed.	Napus ſativa & ſylveſtris. *The garden or ſweet navew; and the wild navew.*
Burſa paſtoris, *ſhepherds purſe*; the herb.	*Greater ſhepherds purſe, with a ſinuated leaf*, C. B.
Buxus, *the box-tree*; the leaves *and* wood.	*The box*, C. B. *The common box-tree*, *Raii ſynopſis.*
Cacao, *cocoa tree*; the fruit, *called chocolate nuts.*	*The almond-like fruit of Guatimela*, *Caſp. Bauhini.*
Calamintha montana, *mountain calamint*; the herb.	*The common calamint of the German ſhops*, *C. Bauh.*
Calendula, *marigold*; the flower.	*Caltha. Common marigolds*, *C. B. Single marigolds*, *Ger.*
Campechenſe lignum, *logwood* [u].	
Camphora, *camphor*; the reſin [w].	*Caphura. Camphor of the ſhops*, *Caſparis Bauhini.*

Canella

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[u] This wood has been but lately introduced as a medicine. A decoction and extract of it are in uſe in our hoſpitals, and are ſaid to have proved very ſerviceable in diarrhœas.

[w] Camphor is a ſingular concrete, extracted by art from a particular kind of tree, in the Eaſt Indies *, and brought to us in little ſemi-tranſparent pieces or grains, of a reddiſh or aſh colour, a fragrant ſmell, and a ſharp pungent taſte. It is of ſo very volatile a nature, as upon being expoſed to the free action of the air, to entirely exhale in no great length of time. Pure camphor melts in a ſmall heat, and aſſumes the fluidity and appearance of water; at the ſame time it ariſes in a thin vapour, which being catched in proper veſſels, concretes into a ſolid tranſparent cake, which is the refined camphor of the ſhops. This eaſily takes fire, and burns away, without leaving any remains. It readily diſſolves both in expreſſed and diſtilled oils. One ounce of highly rectified ſpirit of wine will take up ſix drams of camphor: if this ſolution be expoſed to the air, the ſpirit flies off before the camphor begins to exhale: if it be

* *Dal. pharmacolog. p.* 300. *Miller botan. off. p.* 105.

diſtilled,

Canella alba, *white canella*; the bark [x].	*Cinnamon, or white canella in ſmaller pipes, C. Bauh.* falſely called cortex Winteranus, *or Winters-bark.*
Cannabis, *hemp*; the ſeed.	*Manured hemp, Raii ſynopſ.*
Capparis, *caper-buſh*; the bark of the root, *and* buds of the flowers.	*Prickly caper-buſh, with a ſmaller fruit and a round leaf, Caſparis Bauhini.*
Caprifolium; the leaves *and* flowers.	Periclymenum, *Matriſylva. Wood-bind. The German not perfoliated wood-bind, C. Bauhini, Raii ſynopſ.*
Capſicum, *Guinea pepper*; the fruit.	*Piper Indicum. The moſt common Indian-pepper, C. B. The greater common long-podded Guinea-pepper, Parkinſon.*

Caranna,

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diſtilled, the ſpirit riſes firſt: if ſet on fire, the ſpirit entirely burns away before the camphor takes flame. Spirit of nitre likewiſe proves a ſolvent for camphor, but ſeparates from it upon the addition of water. It diſſolves likewiſe in the vitriolic acid, and ſeems to loſe its ſmell in it; but recovers it and its priſtine appearance, upon the affuſion of water: this laſt ſolution digeſted for ſome time, emits a penetrating vapour like to that of burning brimſtone. Spirit of ſalt has little or no effect on camphor: nor do vegetable acids or fixed alcaline ſalts any way act upon it. Diſtilled ſeveral times from freſh parcels of bole, it aſſumes and retains the appearance of oil. See ſeveral things relating to the natural and chemical hiſtory of camphor, in *Dict. de commerce, Mem. de l'acad. roy. des ſcienc.* 1705. *Phil. Tranſ. n.* 120, and *Practical Chemiſtry, p.* 267. The moſt convenient way of giving camphor inwardly is in the form of a bolus, or rather that of an emulſion, which latter is on many accounts preferable to the former.

[x] Canella alba is a bark rolled up into long quills, and cleared from the outer coat. It is both outwardly and inwardly of a whitiſh colour, lightly inclining to a yellow: it is thicker than cinnamon, has a fragrant ſmell, and a ſmart, pungent taſte, with ſomething

of

Caranna, the reſin [y].	
Cardamomum majus, *greater cardamom*; the ſeed [z].	
Cardamomum minus, *leſſer cardamom*; the ſeed [a].	*The ſmall cardamoms, called ſimply cardamoms in the ſhops, C. B.*

Cardia-

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of the aromatic in it, reſembling a mixture of cinnamon, ginger and cloves. The white canella yields, upon being macerated and diſtilled, an aromatic eſſential oil, of a yellowiſh colour, which ſomewhat reſembles in ſmell the oil of cloves, and ſinks in water. Canella is often uſed in the ſhops for Winter's bark, which it greatly reſembles *, and to which it is not an ill ſubſtitute †.

[y] Caranna, according to *Geoffroy* ‡, is a tenacious, reſinous concrete, while freſh ductile like pitch, but hard and friable when it has been kept for any time, outwardly of an aſh colour inclining to black, inwardly of an obſcure brown, or, according to *Dale* ‖, of a pitch colour, of a bitteriſh, reſinous taſte, a little like myrrh, and of a fragrant ſmell while burning. It is brought to us from New Spain, and other parts of America, in little maſſes rolled up in leaves of flags. It ſhould be choſen freſh, of a fragrant ſmell, free from other reſins or impurities. *Dale*, *Geoffroy*, and ſome other writers, agree in this deſcription of caranna; but I have never met with any which has come up to it: the ſorts which I have ſeen have rather reſembled ſtorax than myrrh, both in taſte and ſmell, and appeared outwardly of a dark browniſh colour, and, upon breaking, of a brown with a caſt of red, variegated with irregular white ſtreaks.

[z] The greater cardamoms are brought to us from Java, but are rarely to be found in our ſhops. Some ſubſtitute in their room grains of paradiſe; others the true amomum. This ſort of cardamom ſeed is angular, of a dark brown colour, an aromatic ſmell, and a hot biting taſte, contained in oblong triangular pods, about an inch in length.

[a] Leſſer cardamoms are ſmall, brown, angular ſeeds, of an aro-

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* *Dalæi pharm. p.* 300.

† *Geoff. ubi ſupra, p.* 174. *Miller, botan. off. p.* 106.

‡ *Ubi ſup. p.* 530.

‖ *Ubi ſup. p.* 324.

Cardiaca, *motherwort*; the herb.	*The ſpecies of Marrubium called cardiaca, C. B. R. ſyn.*
Carduus benedictus, *bleſſed thiſtle*; the herb *and* ſeed.	*The wild hairy cnicus, or carduus benedictus, C. B.*
Carlina, *carline thiſtle*, the root [b].	Chamæleon albus. *The ſtalkleſs great-flowered carline thiſtle, C. Bauh. The low carline thiſtle, Parkinſ.*
Carthamus, *baſtard-ſaffron*; the ſeed [c].	Cnicus. *Safflower. Garden cnicus, or carthamum of the ſhops, C. Bauhini.*
Carui, *caraway*; the ſeed.	Carum. *Meadow cummin, the caraway of the ſhops, Caſparis Bauhini.*
Caryophyllata, *avens*; the root.	*Common avens, Caſparis Bauhini. Herb bennet.*

Cary-

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matic taſte and ſmell, contained in ſhort triangular pods of a pale colour.

[b] This root, which is brought from the Alps and the Pyrenæan mountains, is from four to eight inches long, and about an inch thick. Its ſurface is reddiſh, and as it were corroded and perforated with little holes. It is white on the inſide, of an acrid, bitter, aromatic, but not ungrateful taſte, with a fragrant ſmell. This root is ſaid to be poiſonous to ſome animals, but not to man: ſome have looked on it as a great alexipharmic: *Frederick Hoffman* obſerves, that boiled in broth, it has frequently proved emetic. The preſent practice has rejected its uſe, and it is rarely to be found in the ſhops.

[c] The ſeeds of carthamus, which are the part of the plant chiefly made uſe of for medicinal purpoſes (for the flowers have been ſeldom uſed) have been in all ages reckoned among the purgatives; though even theſe have at length become almoſt ſtrangers to the apothecaries ſhop. Theſe ſeeds, when in perfection, are white, ſmooth, about three lines long, angular on one ſide and roundiſh on the other. They contain, under a hard bark, a whitiſh pulp of a ſweet taſte, followed with an acrid and a nauſeous one. When good, they ſink in water *.

* *Geoff. Mat. Med. tom.* ii. *p.* 462.

Caryophyllus aromaticus, *cloves*; the fruit [d].	*The unripe fruit of the clove-tree, Rumph. herbar. Amboinens.*
Caryophyllus hortenſis, *clove July-flower*; the flower.	Tunica, *Vetonica. The great garden July-flower, Caſp. Bauhini. The double clove July-flower, Gerard.*
Caſſia fiſtularis, *pudding pipe tree*; the fruit [e].	*Caſſia fiſtula of Alexandria, Caſparis Bauhini.*

Caſſia

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[d] Aromatic cloves are the unripe fruit of a tree, in ſhape ſomewhat reſembling a ſhort, thick nail. They are almoſt four-ſquare, of a ruſty colour inclining to black, about half an inch long. At the larger end ſhoot out from the four angles four little points like a ſtar, in the middle of which is placed a round ball of a lighter colour than the reſt of the fruit; this is hollow, and compoſed of little leaves, which, when the fruit is ripe, expand into a flower; this part is very apt to be rubbed off. Cloves are of a ſtrong, though agreeable, aromatic ſmell, and a hot biting taſte *. When freſh, they yield, upon preſſing, a thick, reddiſh fragrant oil; and upon diſtillation with water, a copious, aromatic, eſſential oil, of a light colour, which grows deeper upon keeping: this oil ſinks in water. Chuſe ſuch cloves as are of the darkeſt colour, weighty, oily, and of a ſtrong ſmell, and which, upon taſting, almoſt burn the tongue, and have a ſort of rich moiſture. They grow in the Molucca iſlands, near the equator, and are cultivated with great care in the iſland of Ternate. The Dutch bring them to Holland, whence they are imported to us. Great care ought to be taken in the choice of them; for they are very liable to be robbed of their eſſential oil.

[e] Caſſia fiſtularis is a round pod, or fruit of a tree, ſcarce an inch in diameter, about a foot, and oftentimes more, in length. The outſide is a dark brown, hard, woody bark, having a large ſeam running the whole length on one ſide, and another leſs viſible on the other. The inſide, which is of a yellowiſh colour, is divided by a great number of parallel, thin, woody plates, or partitions, placed tranſverſely, covered with a ſoft, black pulp of a ſweetiſh taſte, with ſome degree of acrimony; with a flattiſh, ſmooth, oval ſeed

* *Geoff. Mat. Med. tom.* ii. *p.* 389.

Caſſia lignea, *woody caſſia*; the bark [f].	*Malabar and Java cinnamon, or canella, C. B.*
Caſſummuniar, *caſmunair*; the root [g].	Caſmunar, *Bengale, Riſagon.*

Cauda

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in every partition. There are two ſorts of this drug in the ſhops: the one is brought from the Eaſt Indies; the other from the Weſt. The canes of the latter are generally large, rough, thick-rinded, and the pulp diſagreeable and nauſeous: thoſe of the former are leſs, ſmoother; and the pulp is more black, ſhining, and of a ſweet and not diſagreeable taſte: this ſort of caſſia fiſtularis is preferable to the other. The pods ſhould be weighty, new, and which do not make a rattling noiſe, from the ſeeds being looſe, when ſhaken: the pulp ſhould be black, ſhining, ſweet, not harſh (which happens from the fruit being gathered before it is fully ripe) nor ſouriſh, which it is apt to turn upon keeping: it ſhould neither be too dry, nor too moiſt; nor at all mouldy, which from its being kept in damp cellars, or moiſtened in order to increaſe its weight, it is very ſubject to. *Sennertus* obſerves, that the urine is apt to be turned of a green colour by the uſe of this fruit; and ſometimes, where a great quantity has been taken, of a blackiſh colour. The pulp of caſſia diſſolved in a large quantity of water, and kept for ſeveral months in a caſk, depoſites an eſſential ſalt very like tartar *.

[f] The tree, whoſe bark the caſſia lignea is, is a ſort of wild cinnamon growing in Malabar, the iſland of Java, and other parts of the Eaſt Indies. We have two or three kinds of this bark in the druggiſts ſhops, whereof the quill ſort, which is of the colour of cinnamon, and rolled up like it, but in leſſer quills, is moſt eſteemed. There is another ſort, which is thicker, and not ſo curled up, which breaks blackiſh, and as it were reſinous, of a ſtrong and biting taſte; this is likewiſe very good. The beſt is what comes neareſt to cinnamon in ſmell, with a glutinous ſweetneſs in taſte †.

[g] Caſmunair is a tuberous root, which comes from the Eaſt Indies. Some of it is an inch or more thick, and cut into tranſverſe ſections, marked on the ſurface with circles like galangal. It is of a duſkiſh yellow colour within, a bitter, hot, aromatic taſte, and fragrant

* *Geoff. ubi ſupra, p.* 344.

† *Miller bot. off. p.* 121.

ſmell,

Cauda equina, *horſe-tail*; the herb.	Equiſetum. *Marſh long-haired horſe-tail, C. B. The greater marſh horſe-tail, Raii ſynopſis.*
Centaurium majus, *greater centaury*; the root.	*The greater centaury with jagged leaves, C. Bauhini.*
Centaurium minus, *leſſer centaury*; the herb.	*The red ordinary ſmall centaury, Park. Raii ſynopſ.*
Centinodium, *knotgraſs*; the herb.	Polygonum. *Broad-leaved polygonum, C. Bauh. Raii ſynopſis. The greater common male knotgraſs, Park.*
Cepa, *onion*; the root.	*Common onion, C. B. The red and white onion, Ger. Park.*
Ceraſus nigra, *black cherry-tree*; the fruit *and* gum.	*The greater wild cherry-tree with a ſweet, ſtaining fruit. Caſparis Bauhini.*
Ceterach, *ceterach*; the herb.	Aſplenium, Scolopendria. *Spleenwort, Miltwaſt.*
Cherefolium, *chervil*; the herb.	*Garden chervil, Caſp. Bauh.*
Chamædrys, *germander*; the herb.	Triſſago. *That commonly reckoned the true germander, J. Bauh. The common germander, Parkinſon.*
Chamæpitys, *groundpine*; the herb.	Iva arthritica. *Common yellow, or trifid-leaved groundpine, C. Bauhini.*
Chamæmelum nobile, *camomile*; the herb *and* flowers.	*Noble camomile, or ſweet-ſcented leucanthemum, C. B. Sweet-ſcented creeping camomile, called ſimply camomile, Raii ſynopſ.*
Cheiri, *wall-flower*; the flowers.	Leucoium luteum.

ſmell, ſomewhat reſembling ginger. Such as deſire further information concerning this root, may conſult the obſervations of *Peachy* and *Marlow*.

Chelidonium majus, *greater celandine*; the herb *and* root.	*The yellow horned poppy called celandine, C. B. Common great celandine, Raii ſyn.*
Chelidonium minus, *leſſer celandine*; the herb *and* root.	*Leſſer chelidonia, Caſp. Bauh. Pilewort.*
Chermes, *kermes*; the grains[h].	Kermes, *Coccus baphicus or tinctorius.*
China; the root[i].	

[h] Kermes is a light, browniſh-red coloured, ſhining, membranous bag, of the ſize of a pea, covered over with light down, or an aſh-coloured duſt, and filled with innumerable eggs or animalcula, which being ſqueezed between the fingers, pour out a dark reddiſh liquor, of a ſubacrid bitteriſh taſte, and not ungrateful ſmell. It adheres to the leaves and tender branches of a particular kind of oak, though it is ſaid by *Liſter* to have been found on the tender branches of cherry-trees. One pound of theſe grains yielded, upon diſtillation, ſix drams of volatile ſalt: the caput mortuum, after calcination, afforded no fixed alcaline ſalt: hence it appears, that theſe grains are of an animal nature. Mr. *Geoffroy* * has extracted a curious account of the manner of curing and preſerving theſe animalcula for medicine and other purpoſes, from the firſt memoir of Mr. *Reaumur*, in vol. iv. of his *hiſtory of inſects*, to which the reader is referred.

[i] There are two kinds of this root in the ſhops; one is brought from the Eaſt Indies, the other from the Weſt. The oriental, which is the only ſort here intended to be uſed, is a thick jointed root, of the reed kind, heavy, woody, full of unequal knots. Its bark is of a brown colour, with ſomewhat of a reddiſh caſt: the inſide of the root is white, with a reddiſh tinge. It has very little taſte or ſmell. That which is freſh, cloſe, ſolid, heavy, neither worm-eaten nor rotten, and which, upon being chewed, appears to be full of a fat unctuous juice, is to be choſen for medicinal purpoſes.

* *Mat. Med. tom.* ii. *p.* 782.

China chinæ; *the bark called* Peruvian bark[k].	Cortex Peruvianus.
Cicer rubrum, *red chich peaſe*; the ſeed.	
Cichoreum, *ſuccory*; the roots, leaves, flowers *and* ſeed.	
Cicuta, *hemlock*; the herb.	*Greater hemlock, C. B.*
Cinnamomum, *cinnamon*; the bark[l].	*Cinnamon, or canella of Ceylon, C. B. Caſſia cinnamomea, Herman. hort. Lugd. Bat.*

Citrea

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[k] This celebrated drug is deſcribed by *Geoffroy* * with great exactneſs. It is a very dry bark, two or three lines thick, rough on the outſide, of a brown colour, ſometimes almoſt covered with a whitiſh moſs: its inſide is ſmooth, of a reddiſh or ruſty iron colour, an intenſely bitter taſte, ſomewhat aſtringent, accompanied with an aromatic flavour, which is not diſagreeable. Sometimes it is brought over in thicker pieces, three, or four, or more inches long: this is taken from the trunk of the tree. There is another ſort, which is not ſo thick as this, and rolled up in ſmall quills, with ſeveral tranſverſe clefts or cracks, covered with moſs, of a cinnamon colour on the inſide: this is taken from the ſmall branches. There is another ſort which is in leſſer pieces than this, of a yellowiſh colour on the inſide, and whitiſh on the outſide: this is ſaid to be taken from the root, and is eſteemed by the Spaniards in America as preferable to the other ſorts. The beſt ſort of bark is of a reddiſh yellow colour, reſembling that of cinnamon; but has ſomewhat of a duſkier caſt: it ſhould be choſen freſh, of an aromatic, not diſagreeable, bitter taſte, and which eaſily breaks, and then appears full of ſhining reſinous particles.

[l] Cinnamon is a light, reddiſh, thin bark, rolled up in long quills or canes; of a fibrous, woody texture. Its ſurface is ſometimes rough and at other times ſmooth, of a yellow colour, inclining to red, not unlike ruſty iron, of a moſt fragrant, delightful ſmell, and a ſweet, pungent taſte. The virtue of this bark is ſaid to be contained in the inner pellicle, or ſkin. Cinnamon, if diſtilled when

* *Mat. Med. p.* 179.

freſh,

Citrea malus, *citron-tree*; the fruit, rind of the fruit *and* ſeed.	*Malus medica, C. Bauh.*
Citrullus, *water melon*; the ſeed.	*The citrul, or Turky-melon, Parkinſon.*
Cochlearia hortenſis, *garden ſcurvy graſs*; the herb.	*Roundiſh-leaved ſcurvy graſs, Caſparis Bauhini.*
Cochlearia marina, *ſea-ſcurvy graſs*; the herb.	*Scurvy graſs, with a ſinuated leaf, Caſparis Bauh. Common ſcurvy graſs, Parkin.*
Coffee, *coffee*; the fruit.	*The Egyptian-tree, with fruit like bay-berries, C. B.*
Colocynthis, *coloquintida, or bitter apple*; the fruit [m].	*Leſſer colocynth with round fruit, C. B. The fruit of the colocynth-tree, after the rind and ſeeds are thrown away, J. B.*

Con-

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freſh, yields a large quantity of eſſential oil: that which ariſes at the beginning of the diſtillation, is pale, almoſt colourleſs, and ſwims upon water: that which follows, is of a yellow or reddiſh colour, and ſinks in water: they are both very limpid, of an exceeding fragrant ſmell, and an extremely biting taſte; ſo as not to be applied to the tongue without great danger, unleſs cautiouſly diluted. Dr. *Slare* ſays, that oil of cinnamon kept for twenty years in a well ſtopped glaſs, was partly changed into a ſalt.

[m] The coloquintida of the ſhops is a round, light, white, dry, cellular ſubſtance, containing in the cavities ſeeds like thoſe of the cucumber, but rounder, leſs flat and harder: the kernel of theſe is oily and of a ſweet taſte. This drug is the pulp of a fruit about the ſize of an orange: it is at firſt of a green colour, but turns yellow as it approaches maturity. The pulp, which is the only part uſed in medicine, is very nauſeous, acrimonious, and extremely bitter: it is brought to us from Aleppo. Mr. *Boulduc* has given a curious memoir on this article *. He obtained from eight ounces of the

* *Mem. de l' acad. des ſcienc.* 1701.

pulp

Conſolida major, *comfrey*; the roots, leaves *and* flowers.	Symphytum majus.
Contrayerva; the root [m].	Drakena. *The contrayerva of the Spaniards, or drakena root of Cluſius, Park.*
Copal; the reſin [n].	
Corallina, *coralline.*	*Sea moſs, or white coralline of the ſhops, Raii ſyn.*

Corallium,

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pulp of coloquintida, by decoction in water, almoſt three ounces of a gummy extract; but got only half an ounce of reſin from the ſame quantity of pulp digeſted in ſpirit of wine. He obſerves, that the extract, made by long decoction in water, purges without any inconvenience; but that the reſin occaſions intolerable griping pains, without proving at all cathartic. It has been a common cuſtom for a long time paſt to endeavour at correcting the virulency of coloquintida, by the addition of hot eſſential oils drawn from aromatics: the oil of cloves in particular has been applied to this purpoſe. But theſe kinds of ingredients ſurely are not the proper correctors of ſubſtances, whoſe virulency depends upon their acrimony and adheſiveneſs.

[m] Contrayerva is a root an inch or two long, about half an inch thick, full of knots, hard, and of a reddiſh colour. Long, tough, ſlender fibres ſhoot out from all ſides of it: theſe are ſometimes loaded with knotty excreſcences. The root is of a pale colour within, of a ſomewhat aſtringent taſte, bitteriſh, with a light and ſweetiſh kind of acrimony: it has a peculiar kind of aromatic ſmell. The fibrous part of the root has very little ſmell or taſte: the tuberous ſhould therefore be only choſen.

[n] Copal is a ſolid, reſinous concrete, brought, in irregular lumps, from New Spain. Some pieces are very tranſparent, and from a light yellow colour to a brown; others are of a whitiſh colour, and ſemitranſparent: the latter is more friable than the former, and reſembles the finer kinds of common reſin groſsly powdered and forced together into a maſs. This reſin is by ſome reſembled to frankincenſe; but it has a more agreeable ſmell, and does not melt ſo thin, or burn away ſo faſt upon a red hot iron. Water makes no impreſſion upon copal, and it is very difficultly diſſolved in ſpirit of wine.

Corallium album, —— rubrum ; *white and red coral* [o].	
Coriandrum, *coriander* ; the ſeed.	*Greater coriander ſeed, Caſp. Bauhini.*
Cornus, *the cornel-tree* ; its fruit.	*The garden male cornel, Caſp. Bauhini.*
Coſtus orientalis, *oriental coſtus* ; the root [p].	
Cotula fœtida, *mayweed* ; the herb.	*Fetid camomile , Caſparis Bauhini.*
Craſſula, *orpine* ; the herb.	Telephium, *Fabaria. Common telephium, C. Bau.*
Crithmum, *ſampire* ; the herb.	*Fœniculum marinum, Herba ſancti Petri. Crithmum or ſmall ſea fennel, C. B.*
Crocus, *ſaffron* ; the flowers *and* ſtamina [q].	*Manured ſaffron, Caſparis Bauhini.*

Cube-

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[o] Coral is a ſea plant, without leaves, but having flowers and ſeeds. It is of various colours ; the moſt uſual are red and white, which are the two ſorts alone made uſe of for medicinal purpoſes. Coral, upon a chemical analyſis, yields a ſmall portion of an urinous ſpirit, mixed with a black, fetid oil, and a ſmall quantity of fixed ſalt, differing very little from ſea ſalt. Red coral calcined in an open fire, loſes its colour, and becomes white : from the calx, iron may be extracted, by applying a load-ſtone. Digeſted in eſſential oils, it imparts its red colour to them. Coral is not affected by water, or vinous ſpirits, but is readily ſoluble in every kind of acid ſpirit *.

[p] Coſtus is a long thick root brought from the Eaſt Indies, of the colour of box, with a thick, pale-coloured bark, of a warm, bitteriſh, aromatic taſte, and fragrant ſmell, ſomewhat reſembling that of violets or Florentine orris. It ſhould be choſen freſh, compact, well-ſcented, bitteriſh, and not rotten †.

[q] There are three ſorts of ſaffron to be met with in the ſhops ; two of which are brought from abroad ; the other is the produce

* *Pract. Chem. p.* 235.

† *Dalæi Pharmacolog.*

of

Cubebæ, *cubebs*; the fruit [†].	*Common cubebs, C. B.*
Cucumis aſininus, *wild cucumber*; the fruit.	*Cucumis agreſtis. The wild or ſquirting cucumber, C.B.*
Cucumis hortenſis, *garden cucumber*; the ſeeds.	
Cucurbita, *gourd*; the ſeeds.	*The greater flattiſh-bottomed gourd, with a white flower, Caſp. Bauh.*

Cuminum,

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of our own country: the latter is vaſtly preferable to the two former; and is the ſort which ſhould be alone made uſe of in medicine. This, when in perfection, is of a fiery red colour, and yields a very deep yellow tincture: it ſhould be choſen freſh, not above a year old, in cloſe compact cakes, neither dry nor yet very moiſt, of the ſame colour within as without, and of a ſtrong acrid ſmell. The Engliſh may be diſtinguiſhed from the foreign ſorts, by its blades being broader than thoſe are. Saffron imparts all its colour, ſtrength and virtue, both to rectified ſpirits and common water: a tincture drawn with the latter menſtruum is apt to grow ſour, and then loſes its colour; but extracted with the former will keep in perfection for many years. This drug loſes greatly of its medicinal virtues, by being expoſed to the air, or by being much dried, though with the utmoſt caution.

[†] Cubebs are a dry, round fruit, or grain, like pepper, ſometimes a little bigger, furniſhed with a long, ſlender ſtalk. The bark is of a dark aſh-colour, wrinkled, ſometimes ſmooth: it contains, under a tender ſhell, a roundiſh ſeed, which is externally of a blackiſh, internally of a whitiſh colour. Cubebs have a hot, aromatic taſte, which falls far ſhort of the acrimony of pepper, which nevertheleſs copiouſly, and for a long time, promotes the excretion of ſaliva. There are two kinds of cubebs brought from the Eaſt Indies: one is gathered before, and the other as ſoon as fully ripe: thoſe of the former kind are bright, wrinkled, and have their kernel much ſhrunk; the others are ſmooth, full and heavy. Cubebs ſhould be choſen large, freſh, and heavy. Diſtilled with water, they yield a conſiderable quantity of aromatic eſſential oil [*].

[*] *Geoff. Mat. Med.*

Cuminum, *cummin*; the ſeed.	Cyminum. *Cummin, with a long ſeed, C. B. Oriental fennel, called cummin, Tournefort.*
Cupreſſus, *cypreſs-tree*; the fruit.	*The tame cypreſs, Gerard.*
Curcuma, *turmeric*; the root [f].	*Long-rooted curcuma, Herman. Hort. Lugd. Bat. Maniella kua, Hort. Malabar.* *Terra merita.*
Cydonea malus, *quince-tree*; the fruit *and* ſeeds.	*Malus cotonea. The fruit of the quince-tree, J. B.*
Cynogloſſum, *hounds tongue*; the root.	*The ordinary great hounds tongue, Caſp. Bauhini.*
Cynoſbatos, *the dog-roſe, or hip-tree*; the fruit *and* little ſpongy balls.	*The common wild roſe, with a ſweet-ſcented, fleſh-coloured flower, C. B.*
Cyperus longus, *long cyperus*, the root.	*The long-rooted ſweet cyperus, or the cyperus of the ſhops, Caſparis Bauhini.*
Dactylifera palma, *the date tree*; the fruit, *or* dates [s].	*The greater palm-tree, Caſp. Bauhini.*
Daucus Creticus, *Candian carrot*; the ſeed.	*Daucus with very fine fennel-like leaves, Caſp. Bauh.*

Daucus

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[f] Turmeric is a long, ſlender, tuberous, knotty root, outwardly of a ſaffron colour, of a warm, bitteriſh taſte, and not ungrateful ſmell. There are two kinds of it, the long and round; the former is that of the ſhops. That which is firm, and of a lively yellow colour in breaking, is accounted the beſt.

[s] This fruit is of the ſhape of an acorn, but bigger, and contains, under a thin yellow ſkin, a pulp of a ſweetiſh ſlimy taſte, and under this a long, hard kernel, with a furrow running its whole length. Such dates are to be choſen as are large, yellow, have few wrinkles, are plump, fleſhy, of a whitiſh colour, towards the kernel, and of a vinous taſte *.

* *Dalæi Pharmacolog.*

Daucus ſylveſtris, *wild carrot*; the ſeed.	*Fine-leaved wild carrot of Dioſcorides, or the daucus of the ſhops, C. B. R. ſ.*
Dens leonis, *dandelion*; the root *and* plant.	*Broad-leaved dandelion, C. Bauhini.* Taraxacum.
Dictamnus Creticus, *dittany of Crete*; the leaves [t].	*Cretan dittany, C. B. Downy broad-leaved Cretan origanum, Tournefort.*
Digitalis, *fox-glove*; the leaves.	*Purple fox-gloves, with rough leaves, C. B. R. ſynopſ.*
Doronicum Romanum, *Roman wolfs-bane*; the root.	*Scorpion-rooted doronicum, Caſparis Bauhini.*
Dracontium, *dragons*; the herb.	*Many-leaved dragons, Caſp. Bauhini.*
Dulcamara, *bitter-ſweet*; the root *and* plant.	Solanum lignoſum. *Woody nightſhade. Climbing ſolanum, or bitter-ſweet, C. Bauhini.*
Ebulus, *dwarf-elder*; the herb, root *and* bark.	*Chamæacte. Dane-wort, Wall-wort. Low elder, or ebulus, Raii ſynopſis.*
Elemi, the reſin [u].	

Elemi,

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[t] The true dittany of Crete is a kind of origanum, ſaid to grow plentifully in the iſland of Crete or Candy, in Dalmatia, and in the Morea. The leaves, which are the only part of this plant in uſe with us, come from Italy. The beſt ſort are well covered over with a thick, white down, ſometimes intermixed with purpliſh flowers: they ſomewhat reſemble lemon-thyme in ſmell and taſte, but have more of an aromatic flavour, as well as a greater degree of pungency. When freſh, they yield a conſiderable quantity of an excellent eſſential oil.

[u] Elemi, improperly gum elemi, is a ſoft, reſinous, concrete juice, brought to us from the Spaniſh Weſt Indies, in long, roundiſh cakes. It is ſomewhat tranſparent, of a whitiſh yellow colour inclining to green, of a ſtrong, not unpleaſant ſmell, ſaid to exude from a tree of the olive kind, upon being wounded. Diſtilled with water in

the

Endivia, *endive*; the root, herb *and* ſeed.	*Garden broad-leaved or common endive, C. B. Scariola, Intybus.*
Enula campana, *elecampane*; the root.	Helenium. *Common elecampane, C. Bauhini. The largeſt aſter, Tournef.*
Erigerum, *groundſel*; the herb.	Senecio. *Small common groundſel, Caſp. Bauh.*
Eruca, *rocket*; the ſeeds.	*The white broad-leaved garden rocket of Dioſcorides, Caſparis Bauhini.*
Eryngium, *eryngo*; the root.	*Sea eryngo, Caſparis Bauhini.*
Eryſimum, *hedge-muſtard*; the herb.	*Common eryſimum, Caſparis Bauhini. The rocket with a hairy pod cloſe to the ſtalk called eryſimum, Raii ſyn.*
Eſula major, *greater ſpurge*; the root.	*Shrubby marſh tithyma, Caſp. Bauhini.*
Eſula minor, *ſmaller ſpurge*; the root.	*Pityuſa. Pine-leaved ſpurge, perhaps that of Dioſcorides, Caſparis Bauhini.*
Eupatorium cannabinum, *hemp-agrimony*; the plant.	Commonly called eupatorium Avicennæ. *The eupatorium of Avicenna, water-hemp, water-agrimony.*
Euphorbium; the gummy reſin [w].	

Euphra-

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the common manner, it yields a large portion of pale-coloured, thin, fragrant, eſſential oil, there remaining behind in the ſtill a reſinous ſubſtance friable when cold. This elegant balſam is rarely made uſe of but in external applications, although, from its fragrancy and the large quantity of oil which it contains, it ſhould ſeem preferable to ſome others which are at preſent held in greater eſteem.

[w] Euphorbium is a gummy-reſinous concrete, which exudes from a tall ſhrub, that grows in the remoteſt parts of Africa. It is brought to us immediately from Barbary, in drops of an irregular

form,

Euphraſia, *eye-bright*; the herb.	*Euphragia. The eye-bright of the ſhops, C. B.*
Faba, *beans*; the flowers *and* ſeeds.	
Ficus, *the fig-tree*; its fruit, *called* caricæ *or figs.*	*The dried fruit of the common fig-tree, C. Bauh.*
Filipendula, *dropwort*; the root.	
Filix florida, *flowering fern*; the root.	*Branched unindented fern, C. B.* Oſmunda regalis. *Oſmund royal.*
Filix mas, *male fern*; the root.	*Unbranched indented male fern, C. B. Raii ſynopſ.*
Filix fæmina, *brakes*; the root.	*The greater branched fern, with obtuſe pinnulæ, not indented, C. B. Raii ſyn.*
Fœniculum dulce, *ſweet fennel*; the ſeed [x].	

Fœni-

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form, ſome of which, upon being broken, are found to contain little thorns, ſmall twigs, flowers, and other vegetable matters: others are hollow, fiſtulous, without containing any thing in their cavity. The tears in general are of a pale yellow colour externally, ſomewhat white within-ſide: they break between the fingers eaſily, but are extremely troubleſome to pulverize; for the powder affects the head in a moſt violent manner. The beſt ſort of euphorbium has a ſharp, biting taſte, upon being ſlightly applied to the tongue; and upon being held for ſome time in the mouth, proves moſt violently acrimonious, enflaming and ſoon exulcerating the fauces, &c. The acrimony of this drug is ſo very great, as to render it abſolutely unfit for any internal uſe: ſeveral correctors have been invented to abate its virulence; but the beſt of them are not to be truſted to; and as there ſeems to be no real occaſion for it, we think, with Hoffmann and others, that it ſhould be expunged from the catalogue of the *Materia Medica.*

[x] Forty eight ounces of ſweet fennel ſeeds yield about an ounce of oil, of a far more agreeable ſmell than that of common fennel: it

Fœniculum vulgare, *common fennel*; the herb, ſeeds *and* root.	*Common fennel of Germany, Caſparis Bauhini.*
Fœnum Græcum, *fenugreek*; the ſeed.	*Garden fenugreek, Caſparis Bauhini.*
Fragaria, *ſtrawberry buſh*; the plant *and* fruit.	
Fraxinella, *white or baſtard dittany*; the root.	Dictamnus albus. *Common white dittany or fraxinella, Caſparis Bauhini.*
Fraxinus, *the aſh-tree*; its bark *and* ſeeds.	*The common great aſh, Park. Raii ſynopſ.*
Fuligo ligni, *wood-ſoot.*	
Fumaria, *fumitory*; the herb.	*The firſt not bulbous fumitory, or that of the ſhops, Caſp. Bauhini, Common purple fumitory, Gerard.*
Galanga minor, *leſſer galangal*; the root [y].	
Galbanum; the gummy reſin [z].	

Galega,

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it congeals in the cold, like oil of anniſeed, and aſſumes a beautiful cryſtalline appearance.

[y] The leſſer galangal is a knotty, jointed root, brought from China, cut in ſhort pieces, ſcarce an inch long, and not half ſo thick, of a browniſh red coat, pale red colour within, having ſeveral circular rings on the outſide, of a hot, bitteriſh, aromatic, biting taſte, like pepper, and a fragrant, aromatic ſmell.

[z] Galbanum is a concrete juice, ſaid to exude either naturally from a kind of ferula, or to ooze from wounds made in the plant for this purpoſe. It is a ſemi-pellucid, ſoft, tenacious ſubſtance, between a reſin and a gum, but partaking much more of the nature of the latter than of the former, of a ſtrong, and to ſome unpleaſant ſmell, and a bitteriſh, warm taſte. The large maſſes of the better ſort are brought from Syria; they are of a whitiſh colour, inclining to yellow; upon opening them, they appear to be compoſed of clear, white tears, and ſhould be choſen free from the impurities

of

Galega, *goats rue*; the herb.	*Ruta capraria: Common goats rue, Caſp. Bauhini.*
Gallæ, *galls.*	
Gallium, *ladies bed-ſtraw*; the herb.	*Yellow ladies bed-ſtraw, Caſp. Bauhini.*
Gambogia, *gamboge*; the gummy-reſin [a].	*Cambugio, called by ſome the golden yellow purge, Park.* Gutta gamba.

Geniſta,

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of ſand, earth, or vegetable matters. There is another ſort, of a darker colour brought from the Eaſt Indies, which is not near ſo good as the former. *Geoffroy* relates, that a dark greeniſh oil is to be obtained from this ſimple by diſtillation, which, upon repeated rectifications, becomes of an elegant ſky-blue colour. The purer ſorts of galbanum are ſaid by ſome to diſſolve entirely in wine, vinegar, and water; but theſe liquors are only partial menſtrua with regard to this juice; nor do ſpirit of wine, or oil, prove more effectual in this reſpect: the beſt diſſolvent is a mixture of two parts ſpirit of wine, and one of water.

[a] Gamboge is a hard, concrete juice, brought to us from the Eaſt Indies, in large cakes, or rolls. The beſt ſort is of a deep yellow or orange colour, breaks ſhining, and free from droſs: it has no ſmell, and very little taſte, unleſs kept in the mouth for ſome time, when it impreſſes a ſlight ſenſe of acrimony. Gamboge readily takes fire, and burns in a bright flame, at the ſame time emitting a copious ſmoke. It immediately communicates to ſpirit of wine a bright golden colour, and almoſt entirely diſſolves in it, *Geoffroy* ſays except the ſixth part. Boiled with water, it flows into a turbid, yellowiſh liquor, but ſoon almoſt entirely precipitates, leaving the liquor colourleſs. Alkaline ſalts enable water to act upon this ſubſtance powerfully as a menſtruum: the ſolution made by their means is ſomewhat tranſparent, of a deep blood colour, and paſſes the filter. The ſweet ſpirit of ſal ammoniac readily and entirely diſſolves gamboge, and takes up a conſiderable quantity of it if pure: And what is pretty remarkable, this ſolution mixes either with water or ſpirit, without growing turbid. Gamboge is a moſt violent purgative: *Hoffman*, and ſome others, condemn it as an unſafe medicine, while others are of a contrary opinion, and greatly commend its uſe. *Geoffroy* ſays,

Geniſta, *broom*; the herb, flowers *and* ſeeds.	*The common angular-ſtalked broom, Caſp. Bauhini.*
Gentiana, *gentian*; the root.	*Greater yellow gentian, Caſp. Bauhini.*
Geranium batrachoides, *cranes-bill*; the herb.	
Geranium Robertianum, *herb Robert*; the herb.	*Herb Robert of the wall, J. Bauhini.*
Glaſtum, *woad*; the plant.	Iſatis. *Manured or broad-leaved iſatis, C. Bauh.*
Glycyrrhiza, *liquorice*; the root [b].	
Grana paradiſi, *grains of paradiſe*; the ſeed.	*Cardamomum maximum.*
Gramen caninum, *dogs-graſs*; the root.	*Field dogs-graſs, or that of Dioſcorides, C. B. Couch-graſs, or quick-graſs.*

Granata

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that ſuch as know how to time and exhibit this medicine, find great conveniency and advantage in its uſe, as it has no ſmell, and very little taſte; its doſe is exceeding ſmall, rarely amounting to ten grains; its operation quick and powerful, though not violent, evacuating viſcid tenacious juices both upwards and downwards. It wants no corrector, if given in a liquid form, and ſufficiently diluted. Taken in a bolus or pill, it is apt to prove emetic; but very rarely has this effect, if joined along with mercurius dulcis. See ſeveral forms of exhibiting this drug in *Geoff. Mat. Med. tom.* ii. *p.* 686.

[b] The powder of this root, of which conſiderable uſe is made in medicine, is often mingled with flower, and I fear too frequently with ingredients not quite ſo wholſome. The beſt ſort is of a browniſh yellow colour, (the fine pale yellow being generally ſophiſticated) and of a very rich ſweet taſte, much more agreeable than that of the green root.——The extract of liquorice is rarely to be met with in the ſhops, in perfection: the makers of this commodity, both at home and abroad, are either very ſlovenly in its preparation, or deſignedly mix it with ſand and other impurities. This extract, when made with due care, is exceedingly ſweet, not at all bitteriſh or nauſeous, but more agreeable in taſte than the root itſelf; it entirely diſſolves in water, without depoſiting any feces.

Granata malus, *pomegranate-tree*; the fruit, *and* its rind *called* malicorium.	Punica malus. *The manured pomegranate-tree, Caſparis Bauhini.*
Granata ſylveſtris, *the wild pomegranate-tree*; its flowers, called balauſtines.	Balauſtium.
Gratiola, *hedge-hyſſop*; the herb.	*Hedge-hyſſop with centaury-leaves, Caſparis Bauhini.*
Guaiacum; the wood, bark *and* gum.	*Lignum vitæ. The firſt American guaiacum, with fruit of the maple-tree, or the true guaiacum, Breyn. Prodrom.*
Hedera arborea, *the ivy-tree*; its leaves, berries *and* gum.	*The common climbing berry-bearing ivy-tree, Raii ſyn.*
Hedera terreſtris, *ground-ivy*; the herb.	*Chamæciſſus. Alehoof. Common ground-ivy, C. B.*
Helleborus albus, *white hellebore*; the roots.	Veratrum album. *Greeniſh-flowered white hellebore, Caſparis Bauhini.*
Helleborus niger, *black hellebore*; the roots.	Veratrum nigrum, Melampodium. *Roſy-flowered black hellebore, C. B.*
Helxine, *pellitory of the wall*; the herb.	Parietaria. *The parietaria of the ſhops and Dioſcorides, Caſparis Bauhini.*
Hepatica nobilis, *noble liverwort*; the herb.	*Trifolium aureum. Single-flowered hepatic trifolium, Caſp. Bauhini.*
Hepatica terreſtris, *ground liverwort*; the herb.	Lichen. *Stone lichen or water hepatica, C. B.*
Herba Paris, *herb Paris, true-love, or one berry*; the herb *and* fruit.	*Four-leaved berry-bearing ſolanum, Caſp. Bauhini.*
Hermodactylus, *hermodactil*; the root.	*The dried root of colchicum, Caſparis Bauhini.*
Herniaria, *rupture-wort*; the herb.	*Leſſer polygonum, or greater millegrana, C. Bauhini.*

Hippogloſſum, *horſe-tongue*; the herb.	*Biſlingua. Alexandrian bay, with the fruit growing on a pedicle, C. B.*
Hippoſelinum, *alexanders*; the herb, root *and* ſeed.	Smyrnium. *The hippoſelinum of Theophraſtus, or ſmyrnium of Dioſcorides, Caſpar. Bauhini.*
Hordeum, *barley*; the ſeed.	*Diſtichon by Pliny, becauſe it has two rows of grains in an ear, C. B.*
Horminum ſativum, *garden clary*; the herb *and* ſeed.	Sclarea. *The horminum called ſclarea, C. B.*
Hydrolapathum, *water-dock*; the root.	*The great water-dock of the ſhops, and Caſp. Bauh.*
Hyoſcyamus albus, *white henbane*; the ſeeds.	*The greater white henbane, Caſp. Bauhini.*
Hyoſcyamus niger, *black henbane*; the leaves.	*Common black henbane, Raii ſynopſis.*
Hypericum, *St. Johns wort*; the herb, flowers *and* ſeeds.	*Common hypericum, Caſparis Bauhini.*
Hypociſtis, *hypociſtis*; the inſpiſſated juice [c].	*The inſpiſſated juice of the (hypociſtis ſub ciſto) undergrowth or excreſcence of the ciſtus, C. Bauh.*
Hyſſopus, *hyſſop*; the herb.	*Blue or ſpiked hyſſop of the ſhops, C. B.*
Jacobæa, *rag-wort*; the herb.	*Common cut-leaved ragwort, Caſparis Bauhini.*
Jalappa, *jalap*; the root [d].	

Jaſmi-

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[c] Hypociſtis is an inſpiſſated, ſhining black juice, of a rough, ſtyptic, and ſouriſh taſte. It ſhould be choſen free from grit, of a full black colour, and not at all burnt. It greatly reſembles the juice of acacia.

[d] Jalap is the root of a ſort of convolvulus growing in America. It is brought over to us cut into tranſverſe ſlices; which ſhould be choſen dry, dark-coloured, heavy, cloſe, full of reſin, hard, not brittle nor pliable. Mr. *Boulduc* obtained from twelve ounces of

this

Jaſminum, *jaſmine*; the flower.	*Common white-flowered jaſmine, C. B.*
Iberis, *ſciatica-creſſes*; the herb *and* ſeed.	*Sciatica-creſſes with broader leaves, C. B.*
Imperatoria, *maſterwort*; the root.	Magiſtrantia, *aſtrantia.*
Ipecacuanha; the root[e].	*The many-berried Brazilian herb Paris, Raii hiſt.*

Iris

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this root, by the means of ſpirit of wine, two ounces of reſin; and from the remainder, by water, four ounces of a very ſolid extract: from another parcel of the ſame root he obtained ſix ounces and a half of extract, by applying water at firſt. The remarks of this gentleman in general upon this kind of purgatives, are, that the reſinous parts exhibited apart from the mucilaginous ones, occaſion great diſorders, without proving ſufficiently purgative, while, on the other hand, the extract made with water alone purged gently, and was at the ſame time diuretic.——Jalap is eſteemed as an excellent purgative in cold phlegmatic conſtitutions. Several attempts have been made to correct its ſuppoſed virulence. Some have recommended hot aromatic oils for this purpoſe, which, as M. *Geoffroy* rightly obſerves, abate the purgative quality of this drug, and by their heat endanger an inflammation of the bowels. Alkaline ſalts, or ſoaps, are the beſt correctors of reſinous purgatives; for they prevent the adheſion of the reſin to the coats of the inteſtines, and at the ſame time promote the intended operation. But jalap, if judiciouſly timed and doſed, needs little aſſiſtance of this kind: it may indeed be triturated with equal its weight of dry loaf ſugar, and thus be better fitted for common uſe. *Hoffman, Simon Paulli,* and ſome of the more eminent phyſicians, reſtrain the doſe of this root to twenty-four grains: a ſcruple, if the jalap be good, is, as *Geoffroy* obſerves, a ſufficient doſe for moſt conſtitutions. See ſeveral excellent remarks on this drug in *Geoff. Mat. Med. tom.* ii. *p.* 81.

[e] This root, with reſpect to the places from which it is brought is of two ſorts, Peruvian and Brazilian; but the eye diſtinguiſhes three ſorts, aſh-coloured or grey, brown and white. The grey, or Peruvian, ipecacoanha, is that uſually preferred in the ſhops, and ſhall only be taken notice of here: it is a ſmall, wrinkled root, bent and contorted into all manner of figures; brought over in ſhort

pieces,

Iris Florentina, *Florence orris*; the root.	*White Florence orris*, C. B. *Iris Illyrica.*

Iris

pieces, full of wrinkles, and deep circular fiſſures, quite down to a ſmall white fibre or nerve, which runs in the middle of each piece: the cortical part is compact, brittle, and looks ſmooth and reſinous upon breaking: it has very little ſmell, and a bitteriſh ſubacrid taſte. *Geoffroy* relates, that the powder of this root is ſo acrimonious, that it is apt to affect the perſon who reduces it to powder, without a great deal of precaution, in an extraordinary manner. At firſt, it occaſions a difficult reſpiration, ſpitting of blood, or an hæmorrhage from the noſe, with an inflammation and ſwelling of the eyes, face and throat; which ſymptoms go off of themſelves in a few days, or are immediately relieved by venæſection. The decoction of this root in water is ſo mucilaginous and viſcid, as not to paſs through a cloth, unleſs forcibly expreſſed.

Eight ounces of good ipecacoanha yield about ten drams of reſin; and from the ſame quantity of the root may be obtained, by boiling it in water, three ounces and a half of a gummy extract. The reſinous extract acts as a powerful emetic, but the gummy has little effect this way, though it is of almoſt equal ſervice in dyſenteries with the root itſelf, while the other is of no uſe in theſe caſes. From theſe experiments *Geoffroy* concludes, that the chief virtue of ipecacoanha depends upon its gummy ſubſtance, which lining the inteſtines with a ſoft mucilage, when their mucus has been abraded, occaſions their exulcerations to heal, and defends them from the acrimony of the juices; and that the reſinous part, in which the emetic quality reſides, is required, when the morbific matter is lodged in the glands of the ſtomach and inteſtines. However he prefers the root in ſubſtance to any of its preparations; and ſays, that he has found ten grains of the powder to act as effectually as one or two ſcruples, and therefore confines the doſe of this medicine between ſix and ten grains. With regard to preventing relapſes in dyſenteries, this celebrated author informs us, that after he had ſufficiently purged and vomited his patient with ipecacoanha, he exhibited every day a few grains divided into ſeveral doſes, ſo as to occaſion no ſenſible evacuation, and that by this method, the cure was eſtabliſhed.

Iris noſtras purpurea, *common purple flower-de-luce*; the root.	*The common German or wild orris, Caſp. Bauhini.*
Juglans, *the walnut-tree*; the fruit *and* its ſhell.	*Common walnut-tree, Caſp. Bauhini.*
Jujubæ, *jujubes*; the fruit.	*The greater jujubes, C. B.*
Juniperus, *juniper*; the berries, wood *and* gum.	*The common ſhrub juniper, C. B.*
Kali, *glaſs-wort*; the herb, cineres clavellati *or pot-aſhes* [f].	
Labdanum; the reſin [g].	*The gum of the purple-leaved Cretan ladaniferous ciſtus, Tourn. Corollar. inſt.*

Lacca,

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bliſhed. See *Geoff. Mat. Med. tom.* ii. *p.* 89. *Phil. Tranſ.* N°. 410. *Baddams abr. vol.* viii. *p.* 494. The analyſis of ipecaoanha is to be ſeen in the *Mem. de l'Acad. roy. an.* 1700 & 1701.

[f] There are ſeveral kinds of potaſhes to be met with in the ſhops of the dry ſalter: they are rarely found, at leaſt under this denomination, in thoſe of the apothecary or druggiſt. The ſort in greateſt eſteem in England is that brought from Ruſſia; the beſt of which is a ſtrong, tolerably clean, alkaline ſalt. But all theſe kinds of ſalts are greatly liable to abuſe; particularly that ſort, called, from its colour, pearl-aſhes, which is by many eſteemed the pureſt kind of all, but nevertheleſs has been found, upon examination, to contain a large portion of ſea ſalt, lime, &c. Whatever kind is made choice of ſhould be purified, and ſeparated with great care, from all additional ſalts, which may have been mixed with it, either artfully or accidentally; the manner of doing which may be ſeen in *Pract. chem. p.* 273.

[g] Labdanum, or ladanum, is a reſinous ſubſtance of an agreeable ſmell, and lightly pungent, bitteriſh taſte: it exudes upon the ſurface of the leaves of the ladaniferous cyſtus, a tree which grows plentifully in the iſland of Crete, and other places in the Archipelago. Bellonius deſcribes the method of collecting it, which is perfectly agreeable to Tournefort's obſervation: The Greeks make uſe of a rake for this purpoſe, to which they fix belts or thongs of ſkins:

Lacca, *lacca*; the gummy-reſin.	
Lactuca, *lettuce*; the herb *and* ſeed.	*Garden lettuce, C. B.*
Lamium album, *white arch-angel*; the herb *and* flowers.	*The oblong-leaved not ſtinking white lamium, C. B. Dead nettle.*
Lavendula vulgaris, *common lavender*; the herb *and* flowers.	Lavendula latifolia.
Laureola, *ſpurge-laurel*; the leaves *and* berries.	*Green-flowered ever-green laurel, by ſome called the male, C. B.*
Laurus vulgaris, *common bay-tree*; the leaves *and* berries.	*The greater broad-leaved bay, Parkinſon, Common bay, C. B.*
Lens vulgaris, *lentils*; the ſeed.	
Lentiſcus, *the maſtich-tree*; the wood, *and* reſin *called* maſtich [h].	*Common lentiſcus, Caſparis Bauhini.*

Lapidium,

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theſe they gently apply, in the extremeſt hot weather, to the twigs of the cyſtus, in ſuch a manner as to take up the unctuous juice that exudes, which is afterwards ſcraped off with knives. There are two ſorts of this drug in the ſhops: the beſt, which is difficultly to be met with, is in dark-coloured, almoſt black maſſes, of the conſiſtence of a ſoft plaiſter, which grows ſtill ſofter upon being handled: this, if perfectly good, entirely diſſolves in ſpirit of wine, throws out ſparkles in burning, and emits a copious ſmoke and very agreeable ſmell. The other ſort is harder, not ſo dark-coloured, in long rolls coiled up; this is of a much weaker ſmell than the firſt ſort, and is mixed with ſand, which, according to ſome writers *, is in ſo large a proportion as to make up three fourths of the maſs.

[h] Maſtich is a dry, brittle, tranſparent, white or pale yellow coloured reſin, which exudes from a tree of the turpentine kind, grow-

* *Geoff. Mat. Med. tom.* ii. *p.* 542.

Lepidium, *dittander*; the herb.	*Piperitis: Pepperwort. Broad-leaved lepidium, C. B.*
Leviſticum, *lovage*; the root *and* ſeed.	Liguſticum. *Common lovage, C. B.*
Lichen cinereus terreſtris, *aſh-coloured ground liverwort*; the herb[i].	
Lilium album, *white lily*; the root *and* flowers.	*The common white lily with upright flowers, C. B.*
Lilium convallium, *lily of the valley*; the roots *and* flowers.	*White conval lily, C. B.*
Limonia malus, *lemon-tree*; the fruit *and* its rind.	*Sour lemons, C. B.*

Linaria,

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ing in ſeveral places in Turkey, and in the iſle of Chio, and brought to us in tears or ſmall lumps, from Smyrna and Aleppo. Maſtich eaſily ſoftens with heat, or upon being chewed in the mouth, when it grows tough, and white like wax. Thrown on coals, it readily flames, and yields a pretty ſtrong, but not diſagreeable, ſmell. It diſſolves almoſt entirely in rectified ſpirit of wine: the ſolution is not clear, but has a whitiſh caſt, and taſtes extremely pungent, like the warmer reſins. If a few of the whole tears are gently heated in water, they ſoon emit a ſtrong ſmell, not unlike elemi, at length riſe to the top of the water in diſtinct little round balls, which ſubſide again upon the waters growing cold: the decoction has very little taſte or ſmell.

[i] Mr. *Ray* was the firſt who gave a diſtinct account of this plant, reckoning it among the lichens. Dr. *Dillenius* has lately more exactly deſcribed it (*Hiſt. Muſc.*) and put it into the tribe of the moſſes, calling it lichenoides digitatum cinereum lactucæ foliis ſinuoſis. The great Dr. *Mead* (from whoſe late elegant treatiſe of poiſons we have extracted this remark) informs us, that this plant grows in all countries, and that it has been brought over from America along with the Peruvian bark; that it is to be found at all times, but ought to be gathered from autumn to winter, as being at that time in its freſheſt vigour. It is a warm diuretic, of a diſagreeable and nauſeous taſte, but remarkable for its virtue in the cure of the bite of a mad dog.

Linaria, *toad-flax*; the herb.	*Common yellow large-flowered toad-flax, C. B.*
Lingua cervina, *harts-tongue*; the herb.	Scolopendrium, *phyllitis. The harts-tongue of the ſhops, C. B.*
Linum vulgare, *common flax*; the ſeed.	*Manured flax, C. B.*
Linum catharticum, *purging flax*; the herb.	*Meadow wild-flax, with very ſmall flowers, C. B.*
Liquidambra, *liquid-amber*; the reſin[k].	
Lithoſpermum, *gromwell*; the ſeed.	Milium ſolis. *The greater upright gromwell, C. B.*
Lotus urbana, *ſweet trefoil*; the herb *and* ſeed.	*Garden ſweet trefoil, Caſp. Bauhini.*
Lupinus, *lupin*; the ſeed.	*White-flowered manured lupin, C. B.*
Lupulus, *hops*; the leaves.	*The firſt, or male, and ſecond, or female hops, C. B.*
Macis, *mace.*	The inward bark of the fruit of the the nutmeg-tree.
Majorana, *marjoram*; the herb.	*Common marjoram, C. Bauh.* Sampſuchus, Amaracus.
Malabathrum, *Indian leaf*; the leaves[l].	*The leaf of the cinnamon-tree, Caſparis Bauhini.*

Malva

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[l] Liquid amber is a reſinous juice which flows from a large tree, deſcribed by Mr. *Ray* *, growing in New Spain, Virginia, and South America. This juice, which is at firſt of the conſiſtence of turpentine, but by keeping grows hard like reſin, is of a yellow colour inclining to red, of a hot aromatic taſte, and fragrant ſmell, not unlike that of ſtorax, heightened with a little ambergreaſe.

[m] The Indian leaf is of a greeniſh colour, firm texture, very ſmooth on one ſide, leſs ſo on the other, on which run three remarkable ribs through its whole length, Theſe leaves have little or no ſmell till they are well rubbed, when they emit an agreeable ſpicy

* *Hiſt. plant. p.* 99.

odour ;

Malva vulgaris, *common mallows*; the herb, flowers *and* ſeeds.	*The wild mallow with a ſinuated leaf, C. Bauhini.*
Malus hortenſis, *apple-tree*; the fruit.	
Malus ſylveſtris, *crab-tree*; the fruit.	*Red and white crab-apples, Caſparis Bauhini.*
Mandragora, *mandrake*; the leaves.	*Mandrake, with a round fruit, C. Bauh.*
Manna; *an* inſpiſſated juice[m].	

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odour: they taſte likewiſe faintly, ſomewhat like cloves. The tree which furniſhes theſe leaves is ſaid to grow in the mountainous parts of the province of Malabar in the Eaſt Indies, and to be ſomewhat like the cinnamon-tree. Mr. *Miller* * could diſtinguiſh but very little difference, either in ſhape, colour, ſmell or taſte, between the Indian leaf, and the leaves of the true cinnamon. This drug is of no farther uſe than as an article in the mithridate and theriaca; and is, when in its utmoſt perfection, vaſtly inferior to mace, which the college of London allow to be uſed as a ſuccedaneum to it.

[m] There are ſeveral ſorts of manna in the ſhops: the larger pieces called flake manna are uſually preferred; but the ſmaller tears or grains are equally as good, provided they are white, or of a pale yellow colour, very light, of a ſweet but not unpleaſant taſte, and free from dirt and other viſible impurities. Manna, while freſh, is ſomewhat tranſparent, and upon breaking is found to contain a kind of ſyrupy juice. Some people injudiciouſly prefer the fat, honey-like manna to the foregoing. This latter has either been expoſed to a moiſt air, or been damaged by ſea or other water. Some of this kind of manna is ſaid to be a compoſition of ſugar and honey, mixed with a little ſcammony: this ſort ſometimes purges more violently than the other. There is another ſort of factitious manna, which is white and dry, and is ſaid to be compoſed of ſugar, manna, and probably ſome purgative ingredient, boiled to a proper conſiſtence: this may be diſtinguiſhed from the genuine manna by its

* *Botanic. officin. p.* 202.

Marrubium album, *white horehound*; the herb.	Praſium. *Common horehound, C. B.*
Marum vulgare, *herb maſtich*; the herb.	*Sampſucus or marum ſmelling of maſtich, C. B. Marjoram-leaved Spaniſh thymbra, Tourn.*
Marum Syriacum, *Syrian maſtich-thyme*; the herb.	*Cortuſian marum, J. B. The hoary ſhrubby ſea ground-pine, with lanceolated leaves, C. B.*
Matricaria, *featherfew*; the herb *and* flowers.	Parthenium. *The firſt or common featherfew, Raii ſynopſis.*
Mechoacanna, *mechoacan*; the root [n].	*The American convolvulus called mechoacan. R. hiſt.*
Melilotus, *melilot*; the herb *and* flowers.	
Meliſſa, *balm*; the herb.	*Garden balm, C. B.*
Melo, *melon*; the ſeed.	*The common melon, C. B.*

Mentha,

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weight, ſolidity, untranſparent whiteneſs, and by its taſte, which is different from that of manna. If the reader deſires further ſatisfaction with regard to this article, he is referred to *Geoff. Mat. Med. tom.* ii. p. 581.

[n] Mechoacan, is the root of a plant of the convolvulus kind, brought to us from the province of Mechoacan in South America: it grows likewiſe in many other parts of America; and in great abundance, according to Mr. *Savary*, in the iſland of St. Domingo. The beſt ſort of this root is in compact, white ſlices, having a rough bark, and its internal ſubſtance equable, without any appearance of fibres. It has a ſweetiſh taſte, with a ſmall degree of acrimony. Slices of bryony-root are ſaid to be mixed with thoſe of mechoacan, but the former may be eaſily diſtinguiſhed from the latter by their bitter taſte and fungous appearance. This root is rarely to be met with in the ſhops, the paler kinds of jalap being ſold for it; but jalap is a far ſtronger purgative than this. Mr. *Geoffroy* is of opinion, that mechoacan is one of the ſafeſt and beſt purgatives; and *Hoffman* orders from the quantity of half a dram to a dram of it to be given to boys.

Mentha ſativa, *garden mint*; the herb.	*Narrow-leaved ſpiked mint, C. Bauhini.*
Menthaſtrum, *horſe-mint*; the herb.	*Long-leaved wild mint, Caſp. Bauhini.*
Mercurialis mas & fæmina, *male and female French mercury*; the herb.	*The teſticulated or male, and the ſpiked or female mercury of Dioſcorides and Pliny, C. B.*
Meſpilus; *the medlar-tree*; its fruit.	
Meum, *ſpignel*; the root.	*The firſt or dill-leaved ſpignell, C. B.*
Mezereon, *ſpurge-olive*; the root, bark *and* berries.	*Chamælea. Spurge-flax or the dwarf-bay, Ger. The laureola, with deciduous leaves and purple flowers, called in the ſhops, female laureola, C. B.*
Milium, *millet*; the ſeed.	*Millet with white or yellow grains, C. B.*
Millefolium, *milfoil or yarrow*; the herb.	*Common white-flowered yarrow, C. B.*
Morſus diaboli, *devils-bit*; *the* herb *and* root.	Succiſa. *Smooth ſucciſa, C. B. Whole-leaved ſcabious, Tournef. The ſcabious with its root cut ſhort, and globular flowers, Raii ſyn.*
Morus, *the mulberry-tree*; the bark of the roots *and* the fruit.	*The mulberry with black fruit, C. B.*
Myrobalani citrini, &c. *citrine or yellow, &c. Myrobalans*; the fruit.	
Myrrha, *myrrh*; the gummy-reſin [o].	

Myrrhis,

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[o] Myrrh is a gummy-reſinous concrete juice, which is brought to us from the Eaſt Indies, in glebes, or drops, of various colours and mag-

Myrrhis, *ſweet cicely*; the herb *and* ſeed.	*Great chervil, or ſweet cicutaria, C. B.*
Myrtus, *the myrtle-tree*; its berries.	*The common Italian myrtle, C. B.*
Nardus Celtica, *Celtic nard*; the root.	*The Celtic nard of Dioſcorides, C. B. Celtic valerian, Tourn.*

Nardus

magnitudes. The beſt ſort is of a brown or reddiſh yellow colour, ſomewhat tranſparent, not hard to pulveriſe, though this laſt circumſtance differs according to the age of the myrrh; the freſher, the more viſcous and tough the myrrh is. The taſte of this excellent drug is ſomewhat acrid and bitter, and a little aromatic, though not ſufficiently ſo to prevent its proving nauſeous to the palate: it has a ſtrong ſmell, which is not diſagreeable. Myrrh catches flame, and burns, like a reſin, but does not diſſolve in oily ſubſtances, nor does it entirely diſſolve, like a gum, in water. Rectified ſpirit of wine extracts its reſinous part, in which conſiſts all its aromatic flavour, and leaves a gummy ſubſtance, which has very little taſte or ſmell: *Geoffroy* * relates, that tartarized ſpirit of wine, or ſweet ſpirit of ſal ammoniac, entirely diſſolve it, but this does not ſucceed upon trial. Some gentlemen have lately obſerved, that boiling water diſſolves myrrh freely, and while boiling hot, keeps it almoſt entirely ſuſpended; but when the water grows cold, about one third or leſs ſubſides, much the greater part remaining united with the cold water: if this ſolution be evaporated to the conſiſtence of an extract, it will again diſſolve in water, but will not give ſo much as a tincture to ſpirit: ſpirit will take up great part of what precipitates from water, the reſt ſeeming to be droſs. I have oftimes made an excellent and fragrant tincture of myrrh, by groſsly pulveriſing ſome of the freſher and purer ſorts, and then expoſing it to the action of a dry air, in a ſhady place; when it was again pulveriſed, and expoſed, as before, for a longer time, and then a pure rectified ſpirit poured upon it, which ſoon extracted, without the aſſiſtance of any heat, a deep-coloured tincture, containing in a very eminent degree the fragrant ſmell and bitter aromatic taſte of the myrrh †.

* *Mat. Med. tom.* ii. *p*, 638.

† *Practical Chemiſtry, p.* 322.

Nardus Indica, *ſpikenard*; the root.	Spica nardi. *Indian nard, or the ſpike, ſpikenard and Indian ſpike of the ſhops, Caſp. Bauh.*
Naſturtium aquaticum, *water-creſſes*; the herb.	*Creeping water-creſſes, C. B. Water ſiſymbrium, Tourn.*
Naſturtium hortenſe, *garden creſſes*, the herb *and* ſeed.	*Common garden creſſes, C. B.*
Nepeta, *catmint*; the herb.	Mentha cataria. *Common great catmint, C. B.*
Nephriticum lignum; the wood.	
Nicotiana, *tobacco*; the leaves.	Petum, *tabacum. The greater broad-leaved tobacco, C. Bauhini.*
Nigella, *fennel-flower*; the ſeed.	Gith. *Nigella with a ſmall, ſingle, white flower, C. B.*
Nummularia, *moneywort*; the herb.	
Nux moſchata, *nutmeg*; the fruit [p].	Nux myriſtica, *Pala Rumph. Herb. Amboin. Nutmeg with round fruit, C. B.*

Nux

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[p] Nutmegs are the kernel of a roundiſh nut which grows in the Eaſt Indies. The outſide covering of this fruit is ſoft and fleſhy, like that of a walnut, and ſpontaneouſly opens when the nut grows ripe; immediately under this lies the mace, which forms a kind of reticular covering, through the fiſſures whereof appears a hard, woody ſhell that includes the nutmeg. Theſe kernels are of an oval figure, about half an inch long, full of irregular wrinkles and of an aſh colour: they are at firſt ſoft; but being dried by keeping, grow hard, and appear inwardly variegated with yellowiſh or dark reddiſh veins, of a pleaſant ſpicy ſmell, and an agreeable, aromatic, bitteriſh, and ſomewhat aſtringent taſte. The nutmeg when in perfection yields a conſiderable portion of eſſential oil. From ſixteen ounces of nutmegs, *Geoffroy* obtained one ounce of oil; after the diſtillation, a fat, unctuous matter was found ſwimming on the water, like tallow,

Nux piſtachia, *piſtachio nut*; the fruit.	*The foreign piſtachio nut, with the fruit growing in cluſters, or the Indian terebinthus of Theophraſtus, Caſp. Bauhini.*
Nymphæa alba, *white water-lily*; the root *and* flower.	*The common great white water-lily, Caſparis Bauh.* Nenuphar.
Ocimum, *baſil*; the herb.	
Olea, *the olive-tree*; its fruit, ripe *and* unripe oil, *with the* dregs thereof.	*The manured olive-tree, Caſ. Bauhini.*
Olibanum; the reſin.	Thus maſculum. *The frankincenſe-tree, C. B.*
Ononis, *reſt-harrow*; the root.	Anonis, Areſta bovis. *Prickly purple-flowered anonis, C.B.*
Ophiogloſſum, *adders-tongue*; the herb.	*The firſt or ordinary adders-tongue, Caſparis Bauh.*

Opium

low, almoſt entirely deſtitute of all aromatic virtue. The ſame quantity of nutmegs yielded, on expreſſion, three ounces and a quarter of an oil of a ſebaceous conſiſtence, greatly reſembling the nutmegs both in taſte and ſmell.

There is another ſort of nutmeg, called the female, which is of a longiſh and almoſt cylindrical form, and ſomewhat aromatic taſte and ſmell; but this is not in uſe in the ſhops.

Nutmegs have long been uſed as a medicine, and are deſervedly looked upon as a warm and agreeable aromatic. They are ſuppoſed likewiſe to have an aſtringent virtue, and are made uſe of in that intention in diarrhœas and dyſenteries. Their aſtringency is ſaid to be promoted by torrefaction, but this does not appear to the taſte. This treatment certainly deprives the ſpice of ſome of its finer oil, and therefore renders it leſs efficacious to any good purpoſe; and if we may reaſon from analogy, probably abates of its aſtringency. *Geoffroy* relates from *Bontius*, that too liberal a uſe of preſerved nutmegs is apt to produce lethargic diſorders, hurts the ſtomach and diſpoſes to inflammations.

Opium; the gummy-reſin [q].	
Origanum vulgare, *common origanum*; the herb.	*Wild origanum, the cunila bubula of Pliny, C. Bauh. Wild marjoram.*
Orobus, *bitter vetch*; the ſeed.	Ervum. *Orobus with great ſeeds in jointed pods, C. B.*
Oryza, *rice*; the ſeed.	
Oxylapathum, *ſharp-pointed dock*; the root.	*Lapathum acutum. Wild dock, with flat ſharp-pointed leaves, C. B.*

[q] Opium is a ſolid but ſoftiſh reſinous gum, of a dark, reddiſh-brown colour, a hot bitter taſte, and ſtrong ſmell, brought from the Levant and Eaſt-Indies, in irregular cakes of different ſizes, from four ounces to a pound and upwards in weight, and covered with leaves and other vegetable matters. This celebrated drug is prepared from the milky juice, which iſſues from inciſions made in white poppy heads, by expoſing it for ſome time to the open air, in which it acquires the colour and conſiſtence above mentioned.

Opium conſiſts of five parts of gum, four of reſin, and three of earth. Water, wine, vinegar and brandy, in the proportion of twelve parts of the menſtruum to one of opium, take four or five days for the ſolution without heat; but in the proportion of eight to one, ten or twelve days; alcohol requires a month: proof ſpirits entirely diſſolve it: the reſiduum of a ſolution in cold water contains nothing that boiling water can extract. Sixteen ounces of opium *, yielded forty-two drams, ſix grains of phlegm; one dram, fifty-eight grains of volatile ſalt; ſixteen drams of oil: the caput mortuum afforded two drams, eighteen grains of fixed alkaline ſalt; two drams twenty five grains of earth remaining: nineteen drams, fifty ſix grains were loſt in the diſtillation; and forty-three drams, ſeventeen grains conſumed in the calcination. Eight ounces of opium being fermented and then diſtilled, yielded about three ounces of weak ſpirit, the flavour of which was different from that of opium: the reſinous reſiduum was full as much as if the opium had not been fermented, and retained a little ſmell, but the extract made with water had nothing of it.

* *Medical eſſays abr. vol.* I. *p.* 132.

Palma, *palm-tree*; the oil [r].	*The palm-tree, with prickly pedicles of the leaves, and yellow, oily, plum-like fruit, Catal. plant. Jamaic.*
Panax Heracleum, *Hercules's all-heal*; its gum *called* Opoponax [ſ].	

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[r] Palm oil is a thick, unctuous ſubſtance, of the conſiſtence of an ointment, of an orange colour, and a fragrant ſmell, obtained from the kernel of the fruit of a kind of palm-tree, which grows in Africa, particularly at Senega. Authors differ as to the manner of extracting this oil; ſome affirm it to be got by ſimple expreſſion, in the ſame manner that oil of almonds, olives, &c. are procured: But others, of greater authority, and with a greater ſhew of probability *, alledge, that it is obtained by infuſion in hot water; and that the oily matter riſes to the ſurface, whence it is ſkimmed off.

The inhabitants are ſaid to make this oil part of their food; and to employ it for the ſame purpoſes as we do butter: but with us, it is rarely given inwardly, and is uſed only in ſome external applications. The common people apply it to the cure of chilblains, and when early made uſe of, not without ſucceſs. This oil, by keeping, loſes its high colour, and becomes white; when it ought to be rejected, as no longer fit for uſe.

[ſ] Opopanax is a gummy-reſinous juice, ſometimes to be met with in round drops or tears, but uſually in irregular lumps, which are of a reddiſh yellow colour on the outſide, with ſpecks of white, inwardly of a paler colour, and frequently variegated with large white pieces: it has a particular ſtrong ſmell, and a bitteriſh, nauſeous taſte.

A ſmall piece of opoponax put upon a red hot iron, emits a copious, white, ſtrong-ſmelling fume, and at length becomes red hot, without at all melting. It is not eaſily made to flame, burns languidly, and ſoon goes out, leaving a conſiderable portion of black aſhes. The purer pieces, boiled in rectified ſpirit of wine, impart to it a golden colour: the tincture ſmells ſtrongly, and dropt into

* *Dalæi Pharmacol. p.* 269.

water

Panicum, *panic*; the ſeed.	*German or ſmall-headed panic, C. Bauhini.*
Papaver album, *white poppy*; the heads, ſeeds *and* flowers.	*Garden poppy with white ſeed, C. B.*
Papaver nigrum, *black poppy*; the heads, ſeeds *and* leaves.	*Garden poppy, with black ſeed, C. B.*
Papaver rhœas, *wild poppy, or corn-roſe*; the flowers.	Papaver erraticum. *The greater wild poppy, C. B.*
Paralyſis, *cowſlip*; the flowers.	
Pareira brava; the root[s].	*Butua.*

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water turns it of a milky colour, as if this juice contained more oil than could be expected from the manner of its burning. Opopanax, boiled in water, affords a yellow decoction of a bitter, nauſeous taſte. The purer pieces contain a conſiderable quantity of a ſoft, light, ſpongy, whitiſh matter (ſome of it is in flakes) which neither water nor ſpirit diſſolve. This, probably, is part of the root of the plant, from which this juice is extracted.

[s] Pareira brava is a hard, woody, crooked root, of a dark colour on the outſide, and marked with various wrinkles, which run as well longitudinally as circularly. Its internal ſubſtance is of a dull yellowiſh colour, and interwoven with woody fibres; ſo that upon a tranſverſe ſection a number of concentric circles appear, croſſed with fibres, which run from the center to the circumference. This root has no ſmell, a little bitteriſh taſte, blended with a ſweetneſs, like that of liquorice. Some of the roots are no bigger than ones finger, others as big as a childs arm.

The Portugueze and Braſilians extravagantly cry up the medicinal virtues of this root. Mr. *Geoffroy*[*], from whom we have taken the above deſcription, ſays, that in nephritic complaints, where the urine was ſtopt by viſcid mucus, he had oftentimes exhibited this root with great advantage, and in ſuch caſes always found it a powerful diuretic. His doſe of the root in ſubſtance is from twelve grains to half a dram, and in decoction two or three drams.

[*] *Mat. Med. tom.* ii. *p.* 22.

Paſtinaca hortenſis, *garden parſnep*; the ſeed.	
Paſtinaca ſylveſtris, *wild parſnep*; the ſeed.	*Broad-leaved wild parſnep, Caſparis Bauhini.*
Paſtinaca aquatica, *water parſnep*; the herb.	Sium. *Broad-leaved ſium, C. B. The great broad-leaved water parſnep, Ger.*
Pentaphyllum, *cinquefoil*; the root.	*Quinquefolium. The greater creeping cinquefoil, C. B.*
Pepo, *pompkin*; the ſeed.	*The great round rough-leaved pompkin, with a yellow flower, Caſp. Bauh.*
Perſica malus, *the peach-tree*; its flowers *and* fruit.	
Perſicaria mitis, *dead arſmart*; the herb.	*Spotted and unſpotted mild arſmart, C. B.*
Perſicaria urens, *hot or biting arſmart*; the herb.	*Hydropiper. Hot arſmart or water-pepper, C. B.*
Petaſitis, *butter-bur*; the root.	
Petroſelinum Macedonicum, *Macedonian parſley*; the ſeed.	*Apium of Macedonia, C. B.*
Petroſelinum vulgare, *common parſley*; the root, herb *and* ſeed.	Apium hortenſe. *Garden apium, or common parſley, Caſparis Bauhini.*
Peucedanum, *hogs-fennel*; the root.	*Sulphur-wort. German peucedanum, C. B.*
Pimpinella ſanguiſorba, *burnet*; the herb.	*Leſſer burnet, C. B.*
Pimpinella ſaxifraga, *burnet ſaxifrage*; the root, herb *and* ſeed.	*The leſſer ſaxifrage with burnet leaves, Raii ſynopſ. The ſecond greater tragoſelinum, Tournefort. Or, The leſſer burnet ſaxifrage, Caſparis Bauhini. The leſſer tragoſelinum, Tourn.*
Pinus, *the pine-tree*; its fruit *and* reſin.	

Piper album, *white pepper*; the fruit[t].	*Ripe black pepper blanched.*
Piper longum, *long pepper*; the fruit[u].	*Oriental long pepper, C. B. Cattu-tirpali, Hort. Malabar.*
Piper nigrum, *black pepper*; the fruit[x].	*Black pepper of the ſhops; molago-codi, Hort. Malabar.*

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[t] White pepper is univerſally allowed to be only the black pepper decorticated by maceration in water, and then gently dried; but it is extremely probable, that the black pepper is cured before it is quite ripe, and the white not till it is fully ſo; and hence may ariſe the difference uſually perceived between the two.

There is likewiſe another ſort of pepper, which is naturally white and grows upon much the ſame kind of plant as the former. But this is rarely to be met with in the ſhops.

[u] Long pepper is the unripe fruit of a tree, brought to us from the Eaſt Indies, about an inch, or an inch and a half in length, of a cylindrical figure, reſembling the catkins of the birch-tree; its external ſurface appears compoſed of numerous minute grains, diſpoſed in a very particular manner, which *Geoffroy* * has deſcribed with great exactneſs; its internal part is divided into ſeveral ſmall cells, each of which contains a roundiſh ſeed, outwardly of a blackiſh colour, inwardly whitiſh: the whole is of a hot, biting, bitteriſh taſte, Long pepper ſhould be choſen freſh, entire, weighty, hard to break, ſound, and free from duſt and other impurities.

[x] Black pepper is a round, hollow grain, about the ſize of a ſmall pea, covered over with a black or dark coloured, wrinkled bark; which being taken off, a ſomewhat hard, compact ſubſtance appears, the external ſurface whereof is of a greeniſh yellow colour; the internal (which bounds the hollow part of the fruit) of a whitiſh colour; of a hot, acrid taſte, burning the mouth and fauces. It ſhould be choſen large, weighty, as little wrinkled as poſſible, and free from duſt. This is the only ſpice we import directly from the Eaſt Indies, all the others coming through the hands of the Dutch.

Geoffroy relates, that thirty-ſix ounces of well choſen black pepper, being macerated in water for ſix days, and afterwards diſtilled, yield-

* *Mat. Med. tom.* ii. *p.* 380.

Piper Jamaicenſe, *Jamaica pepper*; the fruit [y].	Pimenta.
Piſum, *peas*; the ſeed.	
Pix liquida, *tar*.	
——Sicca, navalis, *pitch*.	
——Burgundica, *Burgundy pitch*.	Pix Græca.
Plantago latifolia, *common broad-leaved plantain*; the leaves *and* ſeed.	
Pœonia mas & fæmina, *male and female pœony*; the root, flowers *and* ſeed.	*The male pœony, with a ſhining blackiſh leaf, C. Bauh.* *The female pœony with a great full red flower, Caſp. Bauh.*
Polium montanum, *poley mountain*; the herb.	*The narrow-leaved Cretan polium, C. B. or* *The upright ſea polium of Montpelier, C. B.*

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ed one dram of a thin, limpid, aromatic oil, which ſmelt ſtrongly of pepper, was of a hot biting taſte, but not ſo acrimonious as might have been expected: this oil floated on the water which came over with it: the water ſmelt very ſtrong of pepper, and taſted remarkably hot.——Spirit of wine ſeems entirely to extract all the pungency and heat of this ſpice; ſo that a few drops of a tincture made with it (which is of a dark brown colour) ſets the mouth as it were in a flame.

[y] Pimento is the fruit of a tree which grows in great plenty in Jamaica. It is of a fragrant, aromatic ſmell, reſembling a mixture of cinnamon, cloves and nutmegs. This ſpice yields, on diſtillation with water, a conſiderable portion of a pleaſant, eſſential oil, which, like thoſe obtained from the eaſtern ſpices, ſinks in water, and deſerves to be introduced as a ſuccedaneum to them, for the great price of theſe oils ſubjects them ſo much to adulteration, that they are rarely to be met with in any tolerable degree of purity or perfection.

Polypodium quernum, *polypody of the oak*; the root.	*Common polypody of the oak, Caſp. Bauhini.*
Polytrichum, *Engliſh maiden-hair*; the plant.	Trichomanes. *The trichomanes or polytrichum of the ſhops, Caſparis Bauh.*
Populus nigra, *black poplar*; the buds.	
Porrum, *the garden leek*; its root.	
Portulaca, *purſlain*; the herb *and* ſeed.	*Broad-leaved manured purſlain, Caſp. Bauhini.*
Primula veris, *primroſe*; the herb *and* root.	*The great wild ſingle-flowered verbaſculum, C. B.*
Prunella, *ſelf-heal*; the plant.	Brunella. *The great whole-leaved ſelf-heal, C. B.*
Pruna Damaſcena, *Damaſk prunes*; the fruit.	
Prunus Gallica, *French or common prunes*; the fruit.	
Prunus ſylveſtris, *ſloe-buſh*; *the* inſpiſſated juice *of its fruit, called* German acacia.	
Pſyllium, *flea-wort*; the ſeed.	*The greater upright flea-wort, Caſp. Bauhini.*
Ptarmica, *ſneeze-wort*; the root.	*Meadow dracunculus with ſerrated leaves, C. B.*
Pulegium vulgare, *penny-royal*; the herb.	*Broad-leaved penny-royal, C. Bauhini. Water mint, or common penny-royal, Tournefort.*
Pulegium cervinum, *harts penny-royal*; the herb.	*Narrow-leaved penny-royal, Caſparis Bauhini.*
Pulmonaria maculoſa, *ſpotted lung-wort*; the herb.	*Spotted comfry or lungwort, Caſparis Bauhini.*
Pyrethrum, *pellitory of Spain*; the root.	*Daiſy-flowered pyrethrum, C. Bauhini.*
Quercus, *oak*; the buds, bark, acorns *and* cups.	*The common oak with fruit on long pedicles, C. B.*

Raphanus ruſticanus, *horſe-radiſh*; the root.	
Rapum, *turnep*; the root and ſeed.	
Reſina alba, *white reſin.*	
Rhabarbarum verum, *true rhubarb*; the root[z].	*The true rhubarb of the ſhops.* Rheum.
Rhamnus catharticus, *buck-thorn*; the berries.	Spina cervina.
Rhaponticum, *rhapontic*; the root.	*The rha or rheum of Dioſcorides, with large ſmooth dock-like leaves, C. B.*
Rhodium, *roſe-wood*; the wood[a].	Aſpalathus odore roſeo.

Ribeſia,

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[z] The druggiſts diſtinguiſh three ſorts of rhubarb in the ſhops, which they name from the places they are brought from. We ſhall only take notice of that which is in greateſt eſteem: this root is in middle-ſized, compact, roundiſh pieces, ſolid, but not flinty or hard, of a yellow colour on the outſide, on chewing does not prove mucilaginous or clammy, is of an aſtringent and ſomewhat bitteriſh taſte, and an aromatic, not diſagreeable odour. When broke, it appears variegated like a nutmeg, with lively reddiſh ſtreaks, ſpread tranſverſely acroſs the root. This ſort is eaſily reduced to powder, which is of a fine, bright yellow colour, and inſtantly communicates a high ſaffron tinge to water.

Geoffroy relates, that from two ounces of rhubarb was obtained, by means of water, one ounce and twelve grains of a gummy extract; and from the ſame quantity, digeſted with ſpirit of wine, ſcarce three drams of extract. He likewiſe makes a pretty ſingular remark, that the reſinous extract eaſily diſſolves in water, which he attributes to a large quantity of fixed alkaline ſalt that he ſuppoſes in it. But as there does not appear any experiment, or foundation, from which the actual exiſtence of an alkaline ſalt in this root can be proved, this ſolution is not ſatisfactory, eſpecially as it may be accounted for in another way.

[a] Rhodium is a ſolid, reſinous wood, or root, brought from the Canary iſlands, in long, crooked pieces, full of knots, which, when

cut

Ribeſia, *red currant-buſh*; the fruit.	
Roſa Damaſcena, *Damaſk roſes*; the flowers.	Roſa pallida. *The pale roſe.*
Roſa rubra, *red roſes*; the flowers.	
Roſmarinus, *roſemary*; the leaves, *and* flowers *called* anthos.	*The narrow-leaved garden roſemary, C. B.*
Rubia tinctorum, *madder*; the roots[b].	*Manured madder, C. Bauh.*

Rhubus

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cut, appear of a yellow colour like box, with a red caſt; of a bitteriſh taſte, and a fragrant ſmell, reſembling roſes. This root is at preſent only in eſteem, upon account of the eſſential oil which it yields in diſtillation, and which is employed as a high and agreeable perfume in ſcenting pomatums, &c. But if we may reaſon from analogy, this odoriferous ſimple might be advantageouſly employed to nobler purpoſes: a tincture of it made with rectified ſpirit of wine is of an elegant colour, and contains in a ſmall volume the virtue of a conſiderable deal of the root; and therefore bids fair to prove a ſerviceable cordial, not inferior, perhaps, to any thing of this kind.

[b] Madder is an oblong, ſlender, juicy root, of a red colour, both externally and internally, of an aſtringent ſweet taſte, mixed with a little bitterneſs; it has little or no ſmell.

In the *Philoſophical Tranſactions* *, we have an account of a remarkable effect of this root: ſeveral hogs, which had fed for ſome time on bran, that had been employed for ſcouring callicoes died red by an infuſion of madder, had all their bones, particularly the teeth, changed to a deep red colour; but neither the fleſhy nor cartilaginous parts ſuffered the leaſt alteration: on ſawing ſeveral of the bones through, all the internal part was found equally tinged, except at the ends where the ſubſtance was more ſpongy. Some of theſe bones being macerated in water for many weeks together, and afterwards ſteeped and boiled in ſpirits, loſt none of their colour, nor communicated any tinge to the liquors in which they were infuſed.

* *Numb.* 442. *p.* 287.

Rubus vulgaris; *the bramble-buſh*; its leaves *and* fruit.	*The common bramble, or bramble with black fruit, C. Bauhini.*
Ruſcus, *butchers-broom*; the root.	Bruſcus. *Knee holm, called oxymyrſine by ſome, Raii ſynopſ.*
Ruta hortenſis, *garden rue*; the herb *and* ſeed.	*The broad-leaved garden rue, Caſp. Bauhini.*
Sabina, *ſavin*; the leaves.	*The tamariſk-leaved ſavin of Dioſcorides, C. B.*
Saccharum album, rubrum & candum; *white and brown ſugar, and ſugar-candy*; the inſpiſſated juices.	*The inſpiſſated juice of the arundo ſaccharifera, Caſp. Bauhini, or ſugar cane; refined, unrefined, and cryſtallized.*
Sagapenum; the gummy-reſin [c].	

But as ſeveral other ſubſtances, which the dyers uſe in ſtaining callicoes, might have contributed to this effect; a cock † was fed with madder-root mixed with fig-duſt. He died in ſixteen days: on examining the bones, they were found all over of a red colour.

[c] Sagapenum is a concrete juice; according to *Geoffroy*, betwixt a gum and a reſin; but it ſhould ſeem to have more of the nature of the former than of the latter. It is brought to us from Alexandria, either in diſtinct tears, or run together in large maſſes. This drug is outwardly of a yellowiſh colour, internally ſomewhat paler and clear like horn, grows ſoft upon being handled, and ſticks to the fingers, taſtes hot and biting, and has a diſagreeable ſmell; by ſome reſembled to that of a leek, by others to a mixture of aſſa fœtida and galbanum.

Sagapenum readily takes flame from a candle, and is reſolved by decoction with water, into a turbid white liquor; the purer and paler-coloured tears ſcarcely alter the colour of ſpirit of wine, though boiled along with it; nevertheleſs they impart to it a conſiderable deal of oily matter, as appears from its ſmell, taſte, and turning white upon the admixture of water. When ſagapenum is ſcarce, the druggiſts ſupply its place with bdellium broke into ſmall pieces, as has been already obſerved under the article bdellium.

† *Phil. Tranſ. Numb.* 443. *p.* 299.

Sago

Sago.	
Salvia hortenſis major, *common ſage*; the herb *and* flowers.	
Salvia hortenſis minor; *ſmall ſage, or ſage of virtue*; the herb.	
Salvia ſylveſtris, *wood-ſage*; the herb.	
Sambucus vulgaris, *the common elder-tree*; its leaves, flowers, berries *and* bark.	*Elder with black fruit*, *C.B.*
Sanguis draconis, *dragons blood*; the reſin [d].	
Sanicula, *ſanicle*; the herb.	Diapenſia. *The ſanicle of the ſhops*, *C. B.*
Santalum album, *white ſaunders*; the wood [e].	
Santalum citrinum, *yellow ſaunders*; the wood [e].	

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[d] There are ſeveral ſorts of this commodity in the ſhops; but we ſhall take notice of that alone which is eſteemed the pureſt and beſt, as it is the only one that ſhould be made uſe of in medicine. This ſort is brought to us from the Eaſt-Indies, in oval drops, wrapt up in flags; or in large maſſes, which are evidently compoſed of ſmaller tears. The writers on the *Materia Medica* have, in general, given the preference to the firſt; but we have ſeen them both of equal goodneſs.

Fine dragons blood is a pure, clean, reſinous ſubſtance, breaking ſmooth, free from any dirt or ſand, without ſmell or taſte, of a dark red colour, which turns to an elegant bright crimſon upon being reduced to fine powder. It is not at all acted upon by watery liquors; but totally diſſolves in ſpirit of wine, gives a red colour and hot pungent taſte to oils, readily melts on a red hot iron, catches flame, and yields, as *Geoffroy* rightly obſerves, an acid fume, not much unlike that of benzoine.

[e] The white and yellow ſaunders are the wood of a tree which grows

Santalum rubrum, *red ſaunders*; the wood [f].	
Santonicum, *worm-ſeed*; the ſeed.	*Alexandrian ſantonicum, Caſ. Bauhini.*
Sapo albus Hiſpanicus, *white Spaniſh ſoap.*	
Sapo niger; *black ſoap.*	Melanoſmegma.
Sarcocolla, the gummy-reſin [g].	
Saponaria, *ſoapwort*; the herb *and* root.	*Bruiſewort. Common ſmooth ſaponaria, Caſp. Bauhini. The lychnis, called ſaponaria, Raii ſyn.*

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grows in China and Siam: the white is the outward part next to the bark, and the yellow the internal. Both ſorts have a bitteriſh, aromatic taſte, an agreeable kind of pungency, and a fragrant ſmell, which, *Geoffroy* thinks, ſomewhat reſembles a mixture of muſk and roſes: but the yellow poſſeſſes theſe qualities in a more eminent degree than the white. Yellow ſaunders, digeſted in ſpirit of wine, yields a rich yellow tincture, which, by a gentle abſtraction of the menſtruum, affords a balſam approaching, in colour and conſiſtence, to balſam of Peru. *Hoffman* ſays *, that this eſſence, or balſam, of yellow ſaunders is a medicine of ſimilar virtue to ambergreaſe, and recommends it as a reſtorative in great debilities.

[f] Red ſaunders is the internal part of a tree, which grows in the Eaſt-Indies, in Malabar and Cormandel. It is a ſolid, compact, heavy wood, of a dark red colour, which it readily communicates to ſpirit of wine, but not to water. *Hoffman* † obtained from this wood a reſin of a deep red colour, which had no perceptible taſte or ſmell: a ſmall quantity of this reſin tinged a large one of ſpirit, but gave no colour either to expreſſed or diſtilled oils.

[g] Sarcocolla is a gummy juice, ſomewhat reſinous, ſaid to be the produce of a tree, of which we have no certain account. It is brought from Perſia and Arabia, in ſmall whitiſh yellow grains, with a few of a reddiſh colour mixed among them. It is of a bitteriſh and nauſeous ſweet taſte, and diſſolves, in a good meaſure, in water.

* *Obſervat. chymico-phyſ. lib.* i. *obſ.* 19.

† *Ibid. obſ.* 20.

Sarſaparilla; the root[h].	*Aſpera Peruana or ſarſaparilla, Caſparis Bauhini.*
Saſſafras; the wood *and* bark[i].	*The fig-leaved tree from Florida, Caſparis Bauh.*
Satureia, *ſavoury*; the herb.	*Garden ſavoury.*
Satyrion mas, *male ſatyrion*; the root.	*Male ſpotted-leaved foolſtones, or orchis, Caſparis Bauhini. Cynoſorchis, Morio mas, R. ſynopſ.*
Saxifraga alba, *white ſaxifrage*; the herb *and* ſeed.	*Round-leaved white ſaxifrage, Caſparis Bauhini.*
Saxifraga vulgaris, *meadow ſaxifrage*; the herb *and* ſeed.	Seſeli pratenſe.
Scabioſa vulgaris, *common ſcabious*; the herb.	*Hairy meadow ſcabious of the ſhops, C. Bauh.*

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[h] Sarſaparilla, which is brought from New Spain, Peru and Braſil, conſiſts of a great number of long ſlender roots, hanging from one head, or tranſverſe root which is about an inch thick: the long roots (which are the parts alone made uſe of) are about the thickneſs of a gooſe quill or thicker, flexible, and compoſed of fibres running their whole length, ſo that the root may be ſtript into pieces from one end to the other; they contain, under a thin, browniſh, or aſh-coloured bark, a white, ſoft, farinaceous ſubſtance; have no ſmell, but a ſomewhat glutinous, bitteriſh, not ungrateful taſte: the pith is woody, flexible, and not eaſily broken.

[i] Saſſafras is a light, ſpongy wood, or root, brought from Virginia, Braſil, and other parts of America, in long, ſtreight pieces, covered with a rough, fungous bark, outwardly of an aſh colour, inwardly of the colour of ruſty iron, of an acrid, ſweetiſh, aromatic taſte, and a fragrant ſmell.

The wood and bark of ſaſſafras, being raſped and macerated with a large quantity of water, and then diſtilled, yields a limpid, extremely fragrant eſſential oil, which ſinks in water, and is the heavieſt of all eſſential oils. See a table of the ſpecific gravity of oils in *Pract. Chem. p.* 258. *n.*

Scammonium, *ſcammony*; the gummy-reſin[k].	*The true Syrian ſcammony, Caſparis Bauhini.*
Schœnanthus, *ſquinanth*; the plant with the flower[l].	Juncus odoratus. *Sweet ruſh. The ſweet or ſpicy ruſh, Caſparis Bauhini.*
Scilla, *the ſquill, or ſea onion*; its root[m].	*The white-rooted ſquill, C. B. Or the common ſquill with a red root, C. B. Sea ornithogalum, Tourn.*
Scordium, *water-germander*; the herb.	*Scordium, C. B. The hoary marſh chamædrys, Tourn.*
Scorzonera, *vipers-graſs*; the root.	*Broad ſcorzonera with ſinuated leaves, C. B.*
Scrophularia vulgaris, *figwort*; the herb *and* root.	*Knotted ſtinking ſcrophularia, Raii ſynopſ.*
Scrophularia aquatica major, *greater water figwort*; the leaves.	Betonica aquatica. *Water-betony, Gerard. Greater water-betony, Raii ſyn.*

Se-

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[k] Scammony is a concrete juice, extracted from the root of a plant. The beſt ſort, which comes from Aleppo, is light, ſpongy, tender, free from ſtones and other impurities, of an aſh-colour inclining to black, when powdered of a light grey or white colour, of a bitteriſh, ſomewhat acrimonious taſte, and a faint, unpleaſant ſmell. *Geoffroy* relates, that from ſix ounces of ſcammony were obtained, by means of ſpirit of wine, five ounces of reſin.

[l] Schœnanthus is a dry, ſmooth ſtalk, in ſhape and colour ſomewhat reſembling a barley ſtraw, full of a fungous pith, brought to us along with the leaves, and ſometimes the flowers (which are of a red carnation colour) from Turkey, and Arabia, tied up in bundles about a foot long. The whole plant, when in perfection, is of a hot, bitteriſh, aromatic, not unpleaſant taſte; and a very fragrant ſmell.

[m] The ſquill, or ſea onion, is a large, roundiſh root, compoſed of a great number of coats incloſing one another, with ſeveral fibres at the bottom, of an acrid, bitter taſte. It ſhould be choſen plump, ſound, freſh, full of a bitter, acrid, clammy juice, free from worms, and not at all carious.

It

Sebeſten; *ſebeſten plum*; the fruit.	*Myxa. The domeſtic ſebeſten, Caſparis Bauhini.*
Secale, *rie*; the ſeed.	*Winter or great rie, Caſp. Bauhini.*
Sedum majus, *greater houſeleek*; the herb.	Sempervivum majus. *Common ſedum, C. B.*
Seneka; the root[n].	*Senegaw rattle-ſnake-root.*

It has been a received opinion, as Mr. *Savary* obſerves in his *Dictionnaire de Commerce,* that the heart of the ſquill was of a poiſonous nature, and therefore great care has been uſually taken to ſeparate it from the reſt *: but experience ſhews the folly of this opinion: the internal part of the ſquill is generally the moſt efficacious, as being fulleſt of juice, and beſt preſerved from the injuries of the weather and other accidents.

Powder of ſquills, given from four to twelve grains, has been found of great ſervice in the cure of aſthmas; and its efficacy in this diſorder may be ſeen atteſted by ſeveral phyſicians, in the *Commerc. literar. Norimberg* †. Dr. *Wagner* ‡ recommends this powder, given along with nitre, in hydropical ſwellings, and in the nephritis; and mentions ſeveral cures, which he performed by giving from four to ten grains of it, mixed with a double quantity of nitre: he ſays, it almoſt always operates as a diuretic, and ſometimes vomits or purges.

[n] This root is not at preſent much known in the ſhops. The Indians are ſaid to prevent the otherwiſe fatal effects, which follow the bite of the rattle ſnake, by giving it internally, and applying it to the wound. It is likewiſe ſaid to have been of extraordinary ſervice in the rheumatiſm, and other diſorders ariſing from a viſcidity of the blood ‖. Meſſ. *Lemery, Hamel,* and *Juſſieu* vouch for its good effects in pleuriſies and other inflammatory diſorders. See *Mem. de l'acad. roy. des ſcienc. pour l' ann.* 1739.

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* *On eſtime le cœur de ces ſortes d'oignons un poiſon dangereux; & l'on a grand ſoin de l'oter avant que de s'en ſervir.*

† *Comm. lit. Norimb.* 1737. *hebd.* 14. §. 2. & *hebd.* 15, §. 2. and 1739. *hebd.* 34.

‡ *Clinical obſervations.*

‖ *Med. Eſſ. Edinb. abridged, vol.* ii. *p.* 465.

Senna Alexandrina, *Alexandrian ſena*; the leaves[f].	*Alexandrian or ſharp-leaved ſena, Caſp. Bauhini.*
Serpentaria Virginiana, *Virginian ſnake-root*; the root.	
Serpyllum, *mother of thyme*; the herb.	*The ordinary ſmaller mother of thyme, Caſparis Bauh.*
Seſamum, *the oily purging grain*; the ſeed.	
Seſeli Maſſilienſe, *the ſeſeli or hartwort of Marſeilles*; the ſeed.	

[f] Sena is a ſmall, dry, ſharp-pointed leaf, of a yellowiſh green colour, of a ſomewhat grateful ſmell, and a ſubacrid, bitteriſh, nauſeous taſte. There are three kinds of it ſometimes to be met with in the ſhops: the beſt comes from Alexandria, and is the ſort deſcribed above: this ſhould be choſen freſh, well-ſcented, of a lively yellowiſh green colour, ſoft to the touch, with whole leaves, not bruiſed nor ſpotted, cleared from the larger ſtalks, and ſuch like impurities. The ſtalks of ſena uſed to be thrown away; but they have been found to be near as purgative as the leaves.

Sena infuſed in water, communicates to it a deep colour: by evaporating the menſtruum, an extract is obtained, which, according to *Geoffroy* *, is extremely acrimonious, and when exſiccated, readily takes fire.

Several attempts have been made to correct the griping quality of ſena; but moſt of them ſeem to have been founded upon wrong principles. Mr. *Geoffroy* † obſerves, that the purgative virtue of this drug depends upon a gummy and reſinous ſubſtance, which proves more or leſs irritating, according as the volume is greater or leſs in which it is given, and as it is more or leſs divided by ſuch matters as take off its adheſive quality. Hence infuſions of ſena in a ſmall quantity of fluid, or its extract, gripe ſeverely, and purge leſs than when diluted with a larger quantity of ſuitable menſtruum, or when divided by fixed alkaline ſalts, oily ſubſtances, or the like.

* *Mat. Med. tom.* ii. *p.* 268.

† *Ibid. p.* 269.

Sigillum Salomonis, *Solomons ſeal*; the root.	Polygonatum. *The common broad-leaved polygonatum, Caſparis Bauh.*
Siler montanum, *ſer mountain*; the ſeed.	Seſeli vulgare. *Liguſticum or ſeſeli of the ſhops, C.B. Sermountain of Liguria, Park.*
Sinapi, *muſtard*; the ſeed.	
Solanum vulgare, *common nightſhade*; the herb *and* berries.	*The firſt berry-bearing ſolanum, or that of the ſhops, Caſparis Bauhini.*
Solanum lethale, *deadly nightſhade*; the herb.	*Solanum, bearing a black-berry, C. Bauh.*
Sophia chirurgorum, *flixweed*; the ſeed.	*The ſpecies of eryſimum called ſophia, R. ſyn.*
Sorbus ſylveſtris, *wild ſervice-tree*; the bark.	*The ſmallage-leaved wild medlar-tree, without thorns, or ſorbus torminalis, C. B. Raii ſynopſ.*
Spica vulgaris, *common ſpike, or narrow-leaved lavender*; the herb.	Lavendula anguſtifolia.
Spina alba, *the white or haw-thorn*; its flowers *and* leaves.	Oxyacantha vulgaris. *The prickly ſmallage-leaved wild meſpilus, or oxyacantha, C. B. Ordinary haw-thorn, R. ſyn.*
Spongia, *ſponge.*	
Staphyſagria, *ſtaves-acre*; the ſeed.	
Stœchas Arabica, *Arabian ſtœchas*; the flowers.	*Purple Stœchas, Caſparis Bauhini.*
Styrax calamita; the reſin[p].	*The reſin of the quince-leaved ſtyrax-tree, Caſparis Bauh.*

Styrax

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[p] There are two kinds of ſolid ſtorax in the ſhops: the one is called *ſtorax in the cane*; and the other *red ſtorax*. The firſt is a ſolid, reſinous ſubſtance, compoſed of white reddiſh grains, of a warm and not ungrateful taſte, and of a moſt fragrant ſmell. This eaſily

melts

Styrax liquida, *liquid ſtorax*; the reſin [q].	
Suber, *the cork-tree*; its bark.	*The ever-green broad-leaved cork-tree, C. Bauh.*
Sumach; the ſeed.	Rhus obſoniorum. *Elm-leaved rhus, C. Bauh.*
Tacamahacca; the reſin [r].	

Ta-

melts in the fire, and readily catches flame. It was formerly brought from Pamphilia, incloſed in reeds, from whence it had its name.

The *red ſtorax*, or *ſtorax in the lump*, is a concrete reſinous ſubſtance, of a yellowiſh-red or browniſh colour, ſometimes interſperſed with white grains, reſembling in ſmell and taſte the former ſtorax. Of this ſort there has been ſome lately to be met with in the ſhops, under the name of ſtorax in the tear.

There is ſtill another ſubſtance called in the ſhops ſtorax, of a red colour, and an agreeable ſmell, much like the foregoing. This is manifeſtly compoſed of ſome kind of wood raſped into a coarſe powder, and mixed up, probably, with ſome of the foregoing ſtorax ſoftened by art.

[q] There are two kinds of liquid ſtorax mentioned in authors. The firſt is a ſoft, reſinous, grey-coloured ſubſtance, ſuppoſed to be compounded of ſtorax, reſin, oil and wine, beat up together, with water, into a proper conſiſtence. The other is the juice of a tree, called by the Turks and Perſians *cotter-mallos,* which grows in the iſland *Cobros* in the *Red-ſea:* the makers of this commodity yearly clear off the bark of the tree, and boil it in ſea-water, to the conſiſtence of bird-lime; then repeating the decoction, ſtrain it from the powdered bark, and ſend it to Mocca: but this kind is rarely found among us. See *Petivers* account of this drug in the *Philoſophical Tranſactions,* N°. 313.

[r] Tacamahacca is a ſolid reſinous ſubſtance, brought from New Spain: it is ſaid to be collected likewiſe in certain other provinces of America, and in the iſland of Madagaſcar. There are two ſorts of it to be ſometimes met with. The beſt is called tacamahacca in ſhells: this is a concrete reſin, ſomewhat unctuous and ſoftiſh, of a pale yellowiſh or greeniſh colour, collected in a kind of ſhells made from the rind of certain fruits of the gourd kind, and covered over with leaves:

Tamarindus, *the tamarind*; its fruit.	*The Arabian pod or tamarind, Caſp. Bauh.*
Tamariſcus, *the tamariſk-tree*; its bark *and* leaves.	*The ſecond fine-leaved, or French tamariſk, C. Bauh. Parkinſon.*
Tanacetum, *tanſy*; the leaves, flowers *and* ſeeds.	*The common yellow tanſy, C. Bauhini.*
Tapſus barbatus, *mullein*; the leaves.	Verbaſcum. *The male yellow-flowered, broad-leaved verbaſcum, C. B. Common mullein, Raii ſynopſ.*
Terebinthina communis, *common turpentine.*	The liquid reſin of the pine-tree.
Terebinthina, Chia & Cypria, *turpentine of Chio and Cyprus.*	The reſin of the turpentine-tree.
Terebinthina Argentoratenſis, *Straſburg turpentine.*	The liquid reſin of the fir-tree.
Terebinthina Veneta, *Venice turpentine.*	The reſin of the larch-tree.
Thapſia, *deadly carrot*; the root.	*Carrot-leaved thapſia, Caſp. Bauhini.*
Thea, *tea*; the leaves.	
Thlaſpi, *treacle-muſtard*; the ſeed.	*The field thlaſpi, with broad pods, C. B. or, the field thlaſpi with hoary vaccaria leaves, C. B.*
Thus vulgare, *common frankincenſe.*	The dried reſin of the pine-tree.
Thymus, *thyme*; the herb.	*Common fine-leaved thyme, Caſp. Bauhini.*

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leaves: its ſmell is exceeding fragrant and delightful, approaching to that of lavender and ambergreaſe; its taſte, reſinous and aromatic. This ſort is very rarely to be met with: that commonly found in the ſhops is in ſemitranſparent grains or glebes, of a whitiſh, yellowiſh, browniſh or greeniſh colour, of a fragrant ſmell, approaching to that of the foregoing, but leſs grateful. Tacamahacca crumbles at firſt between the teeth, but when chewed a little, ſticks together.

Thymelæa, *ſpurge-olive*; the berries, *called* grana Cnidia.	*Flax-leaved ſpurge-olive, C. Bauhini.*
Tilia, *lime or linden-tree*; its flowers.	*The great-leaved female tilia, Caſp. Bauhini.*
Tormentilla, *tormentil*; the root.	*Setfoil. Wild tormentil, C. B. Common tormentil, R. ſ.*
Tragacantha, *goats-thorn*; its gum, *called* gum tragacanth, *or dragant*[f].	*The gum of the goats-thorn, C. B. of the hoary Cretan goats-thorn, with a ſmall flower ſtreaked with purple lines, Tournefort.*
Trifolium paluſtre, *marſh trefoil*; the leaves.	Trifolium fibrinum, *paludoſum.*
Triticum, *wheat*; the ſeeds, bran *and* ſtarch.	
Turpethum, *turbith*; the root.	Turbith. *Creeping, marſh-mallow-leaved, or Indian turbith, C. Bauhini.*
Tuſſilago, *colts-foot*; the herb *and* flowers.	Farfara. *Common coltsfoot, Caſp. Bauhini.*
Valeriana hortenſis major, *greater garden valerian*; the root.	*Garden valerian, the oluſatrum-leaved phu of Dioſcorides, Caſp. Bauh.*

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[f] Tragacanth is a gummy concrete juice, which exudes, both ſpontaneouſly, and from wounds made in the trunk and branches of the plant above deſcribed, which grows in Crete, Aſia and Greece. It is brought to us from Turkey, either drawn out into long vermicular pieces, and bent into a variety of ſhapes, or run together in lumps; of a white, yellowiſh, browniſh or blackiſh colour, ſemitranſparent, dry, yet ſomewhat ſoft to the touch, of very little taſte or ſmell. It ſhould be choſen white, reſembling fiſh-glue, in ſmall curled ſprigs, free from any viſible impurities.

Tragacanth neither diſſolves in ſpirit or oils. Macerated in a ſmall quantity of water, it forms a thick, mucilaginous juice, which does not perfectly diſſolve in a larger.

Valeriana ſylveſtris major; *greater wild valerian*; the root[s].	Phu. *The greater mountain wild valerian, Caſparis Bauhini. The greater narrow-leaved wild valerian, Moriſon. plant. umbellif.*
Verbena, *vervain*; the root *and* herb.	*Common blue-flowered vervain, C. Bauhini.*
Veronica mas, *male ſpeedwell*; the herb.	Betonica Pauli. *The moſt common creeping male veronica, C. Bauhini.*
Veronica fæmina, *fluellin, female ſpeedwell*; the herb.	Elatine. *Roundiſh-leaved veronica, C. B. The elatine of Dioſcorides, Lobel. adv. The ſhaggy money-wort-leaved corn linaria, Tourn.*
Vincetoxicum, *ſwallow-wort*; the root.	Aſclepias, Hirundinaria. *White-flowered aſclepias, C. Bauhini.*
Viola martia, *March violet*; the leaves, flowers *and* ſeeds.	*The ſweet-ſcented purple-flowered ſingle March violet, C. Bauhini.*
Virga aurea, *golden rod*; the herb.	*The fourth, or leſſer ſerrated narrow-leaved golden rod, C. Bauhini.*
Viſcus quernus, *miſſeltoe*; the wood *and* leaves.	*Miſſeltoe with white berries, C. Bauhini.*

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[s] The wild valerian is preferred by moſt people to the garden for medicinal purpoſes. Mr. *Miller* * is of opinion, that it was with the powder of the root of this ſort of valerian, that *Columna* cured himſelf and others of the epilepſy, by giving the quantity of half a ſpoonful of it at a time. It has of late years come greatly into eſteem, and is, at preſent, very much in uſe. Spirit of wine extracts from this root, even in the cold, a dark coloured tincture, which poſſeſſes the virtue of the valerian, in a very eminent degree. By infuſing freſh parcels of the root in the ſpirit, a tincture may be obtained of any degree of ſtrength.

* *Botan. officin. p.* 448.

Vitis vinifera, *the vine*; its leaves, ſap; dried grapes *or* raiſins, currants; wine, ſpirit of wine, vinegar, verjuice *and* tartar[t].	
Ulmaria, *meadow-ſweet*; the herb.	Regina prati. *Queen of the meadow. Goats-beard with compact flowers, R. ſynopſ.*
Ulmus, *the elm-tree*; its bark.	*The field-elm, Caſparis Bauhini.*
Urtica major vulgaris, *the greater common nettle*; the herb *and* ſeed.	*The firſt or greateſt ſtinging nettle, Caſparis Bauhini. The greater cluſter-bearing perennial nettle, R. ſynopſ.*

Urtica

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[t] Tartar is the eſſential ſalt of wine, or of the juice of the grape, thrown off to the ſides of the containing veſſel, after the liquor has undergone a compleat vinous fermentation. It appears of two different colours, white and red, according to the wine it is obtained from: the red ſort is generally looked upon as leſs pure and more earthy than the white. Of either ſort, ſuch as is clean, ſolid, ſomewhat tranſparent, having its outſide covered over with ſhining cryſtals, is preferable to ſuch as is porous, opaque, droſſy and leſs bright. This ſubſtance, though truly ſaline, is ſcarcely at all acted upon by cold water; and the cryſtals, or purified tartar, require twenty four times their weight of boiling water to diſſolve in. The ſolutions of both the tartars paſs the filter colourleſs, and ſhoot in the cold into white ſemitranſparent cryſtals. All ſuch earths as are ſoluble in vinegar, render tartar more readily ſoluble in water. Hence the refiners are ſaid to uſe a ſaponaceous earth to promote its ſolution, which may occaſion ſuch an alteration, as to render the better ſorts of white tartar preferable, on many occaſions, to the common cryſtals, or cream, of tartar. Lime-water is an active menſtruum with regard to theſe ſalts, and may be ſo managed as to diſſolve half its own weight. Fixed alkaline ſalts, mixed with a ſmall portion of water, are ſtill more powerful diſſolvents, and may be made

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Urtica Romana, *Roman nettle*; the herb *and* ſeed.	*The firſt nettle of Dioſcorides, bearing little balls, including ſeed like linſeed, C. Bauh. Raii ſynopſ.*
Winteranus cortex, *Winters bark* [u].	*The bark of the Magellanic bay-like-tree.*
Zedoaria, *zedoary*; the root [x].	*The long zedoary, C. Bauh. Or the round zedoary, Caſp. Bauhini.*

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to take up near three times their own quantity. Tartar expoſed to the fire in cloſe veſſels, yields firſt an aqueous liquor, then a weak acid one, which is followed by a dark-coloured empyreumatic oil: a light, ſpongy coal remains, which being burnt to aſhes, affords a large portion of fixed alkaline ſalt.——Pure tartar, taken in a doſe not exceeding an ounce, in fine powder, proves a gentle, though effectual purgative in many caſes. Angelus Sala relates, that he was cured of an habitual colic, by purging himſelf, a few times, with two drams of this ſalt, although he had tried many other medicines to no purpoſe.

[u] This is a thick bark, rolled up in pipes, externally of an aſh-colour, ſoft, fungous, uneven, and full of clefts; inwardly ſolid, compact, of a ruſty colour, of a hot, burning, aromatic taſte, and a very fragrant ſmell. The tree which bears this bark, grows on the coaſts of the Streights of Magellan, where it was firſt diſcovered, in the year 1567, by Capt. *William Winter*, from from it received its name. This bark has been for a long time confounded with canella alba, and generally reckoned to be the ſame: but *Parkinſon* rightly obſerves, that the true Winters bark is larger, of a more cinnamon colour and pepper-like taſte, than the canella alba.

[x] Zedoary is a ſolid, compact root, of an aſh-colour, of an aromatic, bitteriſh taſte, and a light fragrant ſmell. The druggiſts diſtinguiſh two ſorts of this root, the long zedoary and the round zedoary: but they differ from one another only in ſhape, and ſeem to be different parts of the ſame root. *Geoffroy* relates, that zedoary being diſtilled with common water, yields a thick eſſential oil, which concretes into a ſubtile kind of camphor.

Zingiberi, *ginger*; the root[y]. *Ginger, C. B. Inſchi, vel inſchi kua, Hort. Malab.*

ANIMALS.

Alce, *the elk.* Its hoofs.
Anas, *the duck.* Its fat.
Anguilla, *the eel.* Its liver.
Anſer, *the gooſe.* Its fat *and* dung.
Aper, *the boar.* Its lard *and* teeth.
Apes, *bees.* Their bodies, honey[a], white *and* yellow wax[b], *and* their glue.
Araneæ, *ſpiders.* Their webs.
Aſtacus fluviatilis, *the river crab.* Its little ſtones, called crabs-eyes.

Bezoar

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[y] Ginger is a knotty, flattiſh root, of a ſomewhat fibrous ſubſtance, of a pale or yellowiſh colour, covered with a thin, duſky pellicle, which is uſually taken off while it is freſh, before it is brought to us; of a hot, biting, aromatic taſte, and fragrant ſmell. It is brought from China, and ſome of our own colonies in America: the former is of a leſs fibrous ſubſtance than the other, and is uſually preferred. Ginger yields upon diſtillation a fiery, hot, eſſential oil, leſs grateful than the ſpice.

[a] Bees-wax is a ſolid ſubſtance, obtained from the honey-comb after the honey is got out, by heating and preſſing it between iron plates. The beſt ſort has an agreeable ſmell, and a lively, bright, yellow colour. It is neither ſoluble in ſpirit of wine, nor in water: boiled in the firſt, it loſes its yellow colour, becomes white, and of a ſofter conſiſtence; but treated in the ſame manner with the latter, undergoes no change. Diſtilled in cloſe veſſels, it totally ariſes; and ſet on fire in the open air, entirely burns away, leaving no aſhes behind.

[b] Honey is a vegetable juice, obtained from the honey-comb, either

Bezoar occidentale & orientale, *oriental and occidental bezoar*-ſtone.

Bombyx, *the ſilk-worm.* Its bags *and* ſilk [c].

Bufo, *the toad.*

Cancer, *the crab.* Its claws *and* ſhell.

Canis, *the dog.* Its excrement, called album græcum.

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either by ſimply ſeparating the combs, and then laying them flat upon a ſieve, through which the honey ſpontaneouſly percolates; or by including the comb in canvas bags, and forcing the honey out ſtrongly in a preſs. The firſt ſort is eſteemed the pureſt: the latter is found to contain a good deal of the matter of which the comb is formed, and ſundry other impurities, which the violence of the preſs has probably mingled with it. There is another ſort ſtill inferior to the two abovementioned, obtained by heating the combs, before they are put into the preſs. The beſt ſort of honey is white, thick, of an agreeable taſte, and a very pleaſant ſmell. Honey effervefces with alkaline ſalts, and readily diſſolves in water or ſpirit. Expoſed to a gentle heat, it grows thinner, and throws up a thick, viſcid matter to the ſurface, which being ſkimmed off, leaves the honey more tranſparent and pure than before. Diſtilled in cloſe veſſels, it yields firſt an aqueous liquor ſlightly impregnated with the ſmell of the honey: from this *dew of honey*, as it is called, great expectations have been raiſed with regard to its medicinal virtues, but experience does not at all warrant the juſtneſs of this notion. This is followed by an empyreumatic oil, and leaves a ſmall quantity of black matter at the bottom of the diſtilling veſſel, which being burnt in the open air, yields an inconſiderable portion of aſhes, in which, upon applying a magnet, ſome iron is found, but upon elixation with water, little or no fixed ſalt.

[c] Sixteen ounces of a mixture of raw ſilk and ſilk worms bags, yielded, upon diſtillation, three ounces of volatile ſalt, which is a larger quantity than I have ever known to be obtained from any other animal ſubſtance.

Cantharides,

Cantharides, *Spaniſh flies* [d].

Caſtor, *the beaver.* Its inguinal glands, *called* Caſtor [e].

Cervus,

[d] Cantharides are a fly, of a ſhining green colour, intermingled with ſomewhat of the blue, and a golden yellow; according to *Herman* * and *Dale* †, of an acrid highly cauſtic taſte, while freſh. They are found adhering to certain kinds of trees, in the warmer climates of Spain, Italy and France, and ſometimes in Germany. In bulk and colour, they differ conſiderably from each other: the largeſt, and moſt eſteemed are brought from Italy: they are killed by the ſteam of vinegar, and then dried in the ſun. Cantharides ſhould be choſen large, freſh, dry, whole, and without duſt: they are apt to rot upon keeping, and fall to powder, when they are good for nothing.

Cantharides boiled in ſpirit of wine for a conſiderable time, impart to it a yellow colour; this tincture has little or no taſte, and not the leaſt appearance of acrimony: the fly looks more beautiful after this treatment than before. Water extracts from cantharides a muddy yellowiſh tinge; but does not become, even after long boiling, ſenſibly ſaline to the taſte, or poſſeſſed of any degree of pungency or acrimony: the fly loſes conſiderably of its beautiful hue.

[e] Caſtor is the inguinal glands of the beaver: they are of various ſhapes and ſizes, covered with a thick pellicle, filled with an unctuous liquor, which grows hard on keeping, and is of an acrid, bitteriſh, nauſeous taſte, and a ſtrong, fragrant, but not at all agreeable, ſmell. They ſhould be choſen large, weighty, well fed, neither too dry nor too moiſt, of a brown colour, of a ſtrong penetrating ſmell, and filled with a hard, brittle and friable ſubſtance, of a browniſh red colour, interſperſed with fine membranes and fibres exquiſitely interwoven. There are ſeveral ſorts of caſtor to be met with in the ſhops, which are named from the places whence they are brought. The beſt ſort is the Ruſſian, and is ſaid to come from Siberia; this is in large, round, hard cods, and appears when cut, of a red liver-colour.

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* *Cynos. Mat. Med. Part* ii. *p.* 55.

† *Pharmacolog. p.* 358.

Cervus, *the ſtag.* His horn, bone of his heart *and* marrow.

Cete, *the whale.* The fat of his brain called ſperma *ceti.*

Cochinillæ, *cochineal-flies.*

Columba, *the pigeon.* Its dung *and* blood.

Elephas, *the elephant.* Its teeth, *or* ivory.

Equus, equa; *the horſe and mare.* The dung, warts *and* milk.

Formicæ, *ants.* Their bodies *and* eggs.

An inferior ſort is brought from Dantzick; this is generally fat and moiſt. The worſt of all is that of New England, which is in longiſh, hard, and thin cods. Another ſort is brought from Hudſon's-bay, in ſhape ſomewhat reſembling that of New England, but of a far better quality, of a very ſtrong ſmell and taſte, little inferior to the caſtor which comes from Dantzick. Caſtor boiled in water imparts a good deal of its ſmell to the vapour: The decoction taſtes bitter and very nauſeous, but with little or none at all of the flavour of the caſtor. Two ounces of rectified ſpirit of wine digeſted upon half a dram of fine Siberia caſtor, powdered and ſifted, extracted a reddiſh tincture, which ſmelt and taſted pretty ſtrong of the caſtor, but was not near ſo bitter and nauſeous as the decoction above. Proof ſpirits extracted a lighter tincture than rectified, and which did not taſte ſo ſtrong as the other. The remainder, after the decoction was filtred off, being gently dried, appeared of a deeper colour than the caſtor, and had very little taſte or ſmell, though it did not ſeem to be conſiderably diminiſhed in quantity. The reſidue of the tincture made with proof ſpirit was of a lighter colour than the caſtor, had very little ſmell, and a ſlight bitteriſh taſte. What remained after the the tincture made with rectified ſpirit, was of ſtill lighter and brighter colour than this, ſeemed to have leſs ſmell, but plainly partook more of the nauſeous, bitter taſte remarked in the decoction made with water. Sweet ſpirit of ſal ammoniac ſeems to be the beſt calculated menſtruum for caſtor, from which it ſoon draws a deep tincture, and at the ſame time adds to its medical virtues.

Gallina, *the hen.* The fat, ſkin of the gizzard, white, yolk *and* ſhell of the egg.

Hircus, capra, *the he and ſhe goat.* The blood, ſuet *and* milk.

Homo, *man and woman.* The blood, urine, fat, milk, ſcull *and* mummy.

Huſo, *the Danube whale.* The glue, *called* ichthyocolla [f].

Lepus, *the hare.* Its fur, gall, aſtragalus-bone *and* coagulum.

Limaces terreſtres, [Cochleæ terreſtres] *garden ſnails.*

Lucius, *the pike.* Its jaw-bone.

Lumbrici terreſtres, *earth-worms.*

Manate, *the ſea-cow.* The bone, *or* ſtone *taken* from its head.

Margaritæ, *pearls.*

Mater perlarum, *mother of pearl.* The ſhell.

Millepedæ, [Aſelli] *wood-lice.*

Moſchus, *muſk* [g].

Oſtrea,

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[f] Fiſh glue is a ſolid, gelatinous ſubſtance, obtained from certain large fiſh. It is brought to us from Muſcovy, folded up in different forms. Such rolls, or cakes, as are compoſed of white, thin, tranſparent plates, which have no ſmell, and perfectly diſſolve in water, are beſt.

[g] Muſk is a grumous, unctuous ſubſtance, not unlike clotted blood, of a ruſty black colour, a ſomewhat acrid, bitter taſte, of a fragrant grateful ſmell at a diſtance, but when ſmelt near to, very ſtrong and diſagreeable, unleſs weakened by the admixture of other ſubſtances: it is collected in a little bag, ſituated near the umbilical region of a particular kind of animal, deſcribed by *Tavernier:* the greateſt number of theſe animals is met with in China, Tartary, and the Indies, The beſt ſort of muſk is in round, thin bladders, covered with ſhort, brown hairs: the muſk itſelf ſhould be choſen dry, with a kind of unctuoſity, of a dark colour, a ſtrong ſmell, containing as few hard and black clots as poſſible, and which, if chewed, and rubbed with a knife on paper,

Oſtrea, *oiſters.* The ſhells.

Ovis

paper, looks ſmooth, bright, yellowiſh, and free from grittineſs, which is probably owing to an admixture of gravel, ſand, and other impurities. Muſk when pure burns almoſt entirely away on a red hot iron, leaving behind it only a ſmall portion of light greyiſh aſhes: but this is no certain criterion, if it be adulterated with animal matters. If a ſmall quantity of good muſk be infuſed in ſpirit of wine in the cold for a few days, it imparts to the menſtruum a deep-coloured, but not red, tinge: this being decanted off, freſh ſpirit poured on the remaining muſk, extracts another tincture, but more ſlowly and much fainter than the former: the firſt tincture is of a faint, and no very pleaſing odour, almoſt as if there was no muſk in it; nevertheleſs a ſingle drop of it communicates to a pint, or even a quart of ſack, a rich muſky ſcent [*].

Muſk has been for ſome time pretty much out of uſe as a medicine, on a ſuppoſition of its occaſioning vapours, deliquiums, &c. in weak females, and perſons of a ſedentary life. But Mr. *Garcin* [†] conjectures, that if ſuitably managed, it would probably prove a remedy of great ſervice, even againſt thoſe very diſorders which it has been ſuppoſed to occaſion. For in Spain, Portugal, and the Eaſt-Indies, where the uſe of muſk ſeems pretty well eſtabliſhed, theſe diſorders occur infinitely more ſeldom than with us.

How far the conjectures of Mr. *Garcin* were right, will appear from the account which Dr. *Wall,* an eminent phyſician at Worceſter, has lately communicated to the world [‡] of ſome extraordinary effects of muſk, in convulſive and other diſorders, which have too often baffled the force of medicine. This gentleman obſerves, that the ſmell of perfumes is often of diſſervice, where the ſubſtance taken inwardly, and in conſiderable quantity, produces the happieſt effects; that two perſons, labouring under a ſubſultus tendinum, extreme anxiety and want of ſleep, from the bite of a mad dog, by taking two doſes of muſk, each of which was

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[*] *Boyles eſſay on the mechanical production of taſtes and odours.*

[†] *Dict. de commerce.*

[‡] *Phil. Tranſ. numb.* 474.

ſixteen

Ovis, *the ſheep.* Its ſuet, greaſe of its wool, oil of its feet, dung *and* milk.

Pavo, *the peacock.* Its dung.

Porcus, ſus, *the hog or ſow.* Its lard, aſtragalus-bone *and* dung.

Ranæ, *frogs.* Their ſpawn.

Scincus, *the ſkink.*

Scorpio, *the ſcorpion.*

Sepia, *cuttle-fiſh. The* bone, *called cuttle-bone.*

Taurus, vacca, bos, *the bull, cow, and ox. Beef*-ſuet, marrow, *ox*-gall, *cows*-milk, butter *and neats*-foot-oil.

Vipera, *the viper.* Its body *and* fat.

Zibethum, *civet.*

ſixteen grains, were perfectly relieved from their complaints. He likewiſe obſerves, that convulſive hiccups, attended with the worſt ſymptoms, were removed by a doſe or two, of ten grains of muſk: and that, in ſome caſes, where this medicine could not, on account of ſtrong convulſions, be adminiſtered to the patient through the mouth, it proved of excellent ſervice when injected as a glyſter. He likewiſe adds, that under the quantity of ſix grains, he never found much effect from it; but that given to ten grains and upwards, it never fails to produce a mild diaphoreſis, without at all heating, or giving any uneaſineſs; that on the contrary, it eaſes pain, raiſes the ſpirits, and that after the ſweat breaks out, the patient uſually falls into a refreſhing ſleep; that he never met with any hyſterical perſon, how averſe ſoever to perfumes, but could take it in the form of a bolus, without inconvenience.——To this paper is annexed an account of ſome further extraordinary effects of muſk, obſerved by another gentleman.

MINERALS.

Ætites, *the eagle-ſtone.*
Alumen plumoſum [Alumen ſciſſile, Aſbeſtos] a ſtone.
Alumen Romanum, *Roman alum.* A ſalt.
Alumen rupeum, *roch alum.* A ſalt [a].

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[a] Alum is a ſalt, of a white or pale red colour, and a ſtyptic taſte, artificially prepared from a bituminous, mineral ſubſtance *. It diſſolves in about twelve times its weight of water: the ſolution, being duly evaporated, ſhoots into ſemitranſparent, octogonal cryſtals. Expoſed to the fire, it eaſily liquefies, bubbles up in bliſters, emits a copious phlegm, and then turns into a light, ſpongy, white maſs; which, being urged with a great fire, yields a ſmall quantity of an acid ſpirit, ſimilar to that obtained from vitriol or ſulphur. Solution of alum coagulates milk, changes the blue colour of ſyrup of violets into a purple, makes no alteration in ſolution of ſublimate, and turns an infuſion of galls turbid and whitiſh: ſolution of fixed alkaline ſalts mixed with it, precipitates a white, earthy ſubſtance, which is ſcarce fuſible in the fire, and not at all ſoluble in water. Oftentimes an urinous ſmell ariſes upon the mixture of alum with alkaline ſalts; this is ſaid to be owing to urine made uſe of in the preparation of alum; and that this never happens when Roman alum is employed, which is made without any addition of urine.

* *The method of making alum may be ſeen in Geoff. Mat. Med. tom.* i. *p.* 135. *Phil. Tranſ. n.* 142. *Baddams abridg. vol.* ii. *p.* 120.

Ambra griſea, *ambergreaſe*. A bitumen [b].

Antimonium, [Stibium] *antimony*. A metallic mineral [c].

Argen-

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[b] Ambergreaſe is a bituminous ſubſtance, of an aſh colour, variegated like marble, here and there ſprinkled with white ſpots. It is ſuppoſed to ouze out of the bowels of the earth, and to be condenſed in the ſea, where it is either found floating upon the ſurface, or is thrown upon the ſhores. The beſt ſort of ambergreaſe is light, of a ſtrong ſmell, and being pierced with a hot needle, yields a fat, odoriferous juice. It melts in the fire into a gold coloured ſubſtance, eaſily takes flame, and is totally ſoluble in ſpirit of wine and eſſential oils: with the firſt it concretes into a butyraceous ſubſtance; if the ſpirit be partly abſtracted, the remainder turns to a white foliaceous matter, not unlike ſperma ceti. Ambergreaſe, upon a chemical analyſis, yields firſt a pellucid phlegm like the cleareſt water, then a brown ſpirit, afterwards an oil of a deeper colour, and at length, in a ſtrong fire, a thick balſam: the oil and balſam have the ſame ſmell with thoſe of common amber *. ——This drug is looked upon as a high cordial; and eſteemed of great uſe in ſome diſorders of the head and nervous complaints. The orientals entertain a high opinion of its aphrodiſiac virtues, and that the frequent uſe of it conduces to long life. The virtues of it as a medicine are not as yet well known; but from the notable effects which muſk has been of late found to produce, it is extremely probable that this might prove a medicine of ſimilar, though not equal, virtue.

[c] Antimony is a ponderous mineral, conſiſting of long ſhining ſtreaks or needles, and a dark lead-coloured ſubſtance. It is compoſed of two or three parts of ſulphur, not at all different from the common ſort, and one of a white, brittle, ſemimetallic ſubſtance. This mineral eaſily melts, and in a great fire proves totally volatile. Calcined with a moderate heat, and at length melted, it runs into a reddiſh glaſs, capable of giving a ſtrong emetic quality to wine. Fuſed along with fixed alkaline ſalts, or boiled in a ſtrong lixivium of them, the more ſulphureous parts

* See Dr. *Neumans* curious paper upon this ſubject, in *Phil. Tranſ.* N°. 433, 434.

Argentum [Luna], *ſilver.* The metal.
Arſenicum album[—factitium]*white arſenic* [o].
Arſenicum flavum,[Auripigmentum[p]] *yellow arſenic* [q].
Metallic Sulphurs.

Arſe-

are firſt taken up, and at length the reguline in notable quantity. Regulus of antimony is ſoluble in the vitriolic acid, corroded by the nitrous, perfectly diſſolved by aqua regia, and the concentrated acid of common ſalt, but not by vinegar, or the vegetable acids; though theſe latter extract enough from it to become powerfully emetic. Crude antimony, in powder, conſidered as a medicine, has no ſenſible effect; though perhaps this may be owing to the groſs manner in which it is uſually prepared; for I have ſeen notable effects from it when finely levigated. Many of the preparations of this mineral are moſt violently emetic, which yet by a ſlight alteration, or addition, loſe their virulence, and become either gently purgative, or powerfully diaphoretic.

[o] White arſenic is a ponderous, hard, compact, ſolid, tranſparent, glaſſy ſubſtance, procured by ſubliming flowers of cobalt from a certain portion of pot-aſhes. *Henckel* relates †, that it is ſometimes, though exceeding rarely, found native in the earth, pure, clean, and of a ſnowy whiteneſs. White arſenic, expoſed to the air, changes its tranſparency for an opaque milky colour. It is not inflammable; but entirely evaporates in the fire, in a white ſmoke, ſmelling like garlick. Dr. *Mead* * obſerves, that white arſenic is totally ſoluble in water: if one part of it be ſufficiently boiled in fifteen parts of diſtilled or rain water, that it gives, upon evaporation, ſalts, of triangular planes, which unite into octoedral cryſtals: and that in theſe either beat to powder, or diſſolved by boiling, metallic globules, reſembling thoſe of quickſilver, are plainly diſcoverable by the microſcope.

[q] Yellow arſenic is prepared by ſubliming white arſenic, with

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† *Pyritolog. oder Kieſs-hiſtorie, das zehnte capitel, p.* 602.

* *Mechanical account of poiſons, edit.* 3. *p.* 217.

Arſenicum rubrum [Sandaracha Græcorum] *red arſenic*[r]. A metallic ſulphur.

Aſ-

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the addition of a tenth part of ſulphur. This is ſplendid, but not ſo tranſparent as the white, and not unlike a metallic yellow glaſs.

[r] The red arſenic differs from the yellow only in this reſpect, a greater quantity of ſulphur is added, together with a particular kind of red cobalt called *kupfer-nickel.*

[p] Orpiment is a mineral ſubſtance, compoſed of ſmall ſcales or leaves, like talk, ſaid by ſome to be found in the mines of gold, ſilver and copper; by others in particular mines and veins in Greece and Hungary, unmixed with any other mineral. It is of three different colours, of a bright, ſhining, golden colour, a vermilion red, intermixed with a deep yellow, and a green with a whitiſh yellow. Orpiment expoſed to the fire in an open veſſel, melts and emits a flame, not ſo blue as that of brimſtone. As ſoon as it is melted, it appears of a deep red colour; and when poured out into a thin plate and cold does not ill reſemble, in colour and tranſparency, a garnet; this is the ſandaracha Græcorum[*]. Kept in the fire for ſome time, it evaporates: the purer ſorts ſcarce leave any perceptible feces. Sublimed in a glaſs veſſel, ſome whitiſh flowers firſt ariſe, which are ſoon followed by others of a deep yellow, inclining to an orange colour; and at length by red flowers, which not riſing ſo high as the others, are melted, by the nearneſs of the fire, into a tranſparent red ſubſtance like that above-mentioned. *Geoffroy* relates[†], that the taſte of orpiment is acrimonious: but it did not appear ſo to me upon trial; and *Hoffman* ſays expreſsly it has no taſte. ——Orpiment has (as the laſt mentioned author rightly obſerves) for a long time been reckoned in the claſs of poiſonous minerals, and looked upon as a ſpecies of arſenic; although in its crude form, it does not ſeem to contain any thing of virulency. It has been given to dogs in a conſiderable quantity, without proving either emetic or purgative, or producing any of thoſe fatal effects which are uſually attributed to it: But after it has undergone the action of the fire, it really acquires a

[*] *Hoff. Obſervat. Chymico phyſ. lib.* iii. *obſ.* 1.

[†] *Mat. Med. tom.* i. *p.* 185.

cauſtic

Aſphaltus [Bitumen Judaicum] *Jews pitch.* A bitumen.

Biſmuthum [Marcaſita], *biſmuth.* A metallic mineral.

Bolus Armena, *Armenian bole.* An earth.

Bolus Bohemia [— communis], *Bohemian or common bole.* An earth.

Borax [Tincar], *borax.* A ſalt [s].

Cal-

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cauſtic and poiſonous quality. The place which refers to this note will eaſily account for this confuſion; for by that we find orpiment and yellow arſenic have been looked upon as the ſame thing; and conſequently that the poiſonous quality of the latter has been oftentimes attributed to the former. The celebrated author above quoted, compares orpiment to antimony, which taken in its crude and native form has no virulent effect, but which, as ſoon as it is ſtript, by fire, of its ſulphureous covering, becomes a moſt violent emetic, &c. In the ſame manner, ſays *Hoffman*, orpiment may be taken crude, without any harm; but it is far from being harmleſs when its parts have been once ſeparated by fire.

[s] Borax, or tincal, is brought to us from the Eaſt-Indies in great maſſes, compoſed partly of large cryſtals, but chiefly of ſmaller ones, partly white, and partly green, joined as it were together by a greaſy yellow ſubſtance, intermingled with ſand, ſmall ſtones, and other impurities. The purer cryſtals expoſed to the fire, melt into a glaſſy kind of ſubſtance, (ſomewhat more than half their former weight) which is nevertheleſs ſoluble in water. Pure borax diſtilled, yields near half its quantity of an inſipid liquor. Mixed with either the vitriolic, marine or nitrous acid, it ſublimes into elegant flowers, of which it affords greater quantity with the firſt acid than with the latter. Theſe flowers, according to Mr. *Geoffroy*, are almoſt inſipid to the taſte; nevertheleſs, ſays he, they calm the heat of the blood in burning fevers, prevent or remove delirious ſymptoms, and allay ſpaſmodic affections, whether hypochondriacal or hyſterical, at leaſt for a time; in a word, this ſalt is an excellent anodyne: the doſe is from one to ten grains in any proper liquor.

Borax

Calcarius lapis, *lime-ſtone*, which, being calcined, is called Calx viva, *quicklime*.

Calaminaris lapis, *calamine*. A ſtone [r].

Chalcitis. A metalline recrement [t].

Cimolia

Borax precipitates ſolutions made by acids, and turns ſyrup of violets green. Diſſolved in water, (of which it requires ten times its weight) filtred, evaporated and cryſtallized, it forms little tranſparent, colourleſs cryſtals: the refiners of this ſalt have a method of ſhooting it into larger cryſtals; but theſe differ in ſeveral reſpects from the rough tincal, and are not ſo proper for many purpoſes, as the larger and purer cryſtals unrefined. If the reader deſires a farther account of this ſalt, he may conſult *Practical Chemiſtry, p.* 155.

[r] Lapis calaminaris is a foſſil ſubſtance, of a conſiſtence between ſtone and earth, found in great abundance in the lead mines. It is yellow, gold-coloured, red, ſometimes grey, or even of a colour which is a mixture of all the foregoing. Broken to pieces and thrown into the fire, it immediately renders the flame of a beautiful green colour, and exhales a thick, white, copious ſmoke, of a ſweet ſmell peculiar to it, and vaſtly aſtringent. This ſmoke condenſes into very light flowers, at firſt of a bluiſh, and afterwards of a greyiſh white colour: theſe flowers are ſuppoſed to be the pompholyx of the ancients. Calamine contains likewiſe an unmetallic earth, and ſome iron. It is never made uſe of as a medicine, but in external applications.

[t] It has been greatly diſputed among the writers on the materia medica, what the ancient chalcitis was, whether a native or a factitious ſubſtance: ſome affirm it to be common colcothar of vitriol; others, a native, red, vitriolic, venereal mineral. But the accounts which are handed down to us concerning this mineral are ſo various, that nothing certain can be determined about it. What ſeems chiefly to have influenced moſt writers to call chalcitis a venereal vitriol is its Greek name χαλκιτης, which they derive from χάλκος, copper. But this difficulty will ſoon vaniſh, when we conſider that the ancients imagined all vitriols to proceed from copper; and therefore named them accordingly.

If

Cimolia alba [Argilla alba] *tobacco-pipe clay.*

Cimolia purpuraſcens, *fullers earth.*

Cinnabaris nativa [u], *native cinnabar.* A metallic earth.

Cinnabaris factitia, *factitious cinnabar.* A metallic earth.

Creta alba, *white chalk.* An earth.

Cryſtallus,

If we were to reaſon from the propriety of names, we might ſuppoſe our common copperas to be made from copper, though common experience teaches us quite otherwiſe. The German mineraliſts, though remarkably accurate in affixing proper appellations to mineral ſubſtances, ſtill retain the old, though improper, name of *Kupffer-waſſer*, for all ſorts of vitriol, whether they proceed from copper or iron. ——— *Henkel* * is of opinion, that common green vitriol, well purified, and perhaps calcined to whiteneſs, is either the chalcitis itſelf, or the beſt ſubſtitute for it; and in this opinion he has been followed by ſome later writers. His conjectures are deduced from the effects unanimouſly attributed to the ancient chalcitis, which by no means agree to any ſubſtance, natural or artificial, whoſe baſis is copper, but are the conſtant and known effects of ſuch matters as contain iron.

[u] Native cinnabar is a ponderous mineral ſubſtance, found in Spain, Hungary, and in ſeveral other parts of the world. There are many kinds of it to be met with in the repoſitories of the curious: but we ſhall only take notice of ſuch as are eſteemed the beſt for medicinal purpoſes. The fineſt ſort is brought from the Eaſt-Indies: this is of a red colour, which greatly improves upon being ground into a fine powder: there is another ſort of a good colour, in roundiſh drops, ſmooth on the outſide, and ſtriated within. This ſubſtance appears, upon a chemical analyſis, to be compoſed of ſulphur and mercury, in ſuch a manner that the quantity of the latter is commonly above ſix times greater than that of the former †. The finer the colour of the cinnabar is, the more of mercury it is found to hold.

* *Pyritolog. pag.* 802.

† *Cramer. Elem. art. docimaſt. ed.* 2. *tom.* i. *p.* 287. §. 453.

Cryſtallus, cryſtal. A ſtone.

Cuprum, [Venus] *copper.* The metal, whereof braſs, verdegreaſe, tuty, (*or* cadmia) pompholyx (*or* nil album) *and* ſpodium (*or* nil griſeum) *are made.*

Ferrum nativum, [Mars] *iron.* The metal, *and its* ſcoria.

Ferrum factitium, [Chalybs] *ſteel.*

Hæmatites lapis. *Blood-ſtone.*

Hybernicus lapis, [Tegula vel ardeſia Hybernica] *Iriſh ſlate.*

Hydrargyrus, [Argentum vivum, Mercurius] *quickſilver.* A metallic mineral[x].

Native cinnabar is by many preferred to that made by art: but there does not appear to be any good foundation for this preference. *Geoffroy* relates, that he has obſerved nauſeas, vomiting and anxiety occaſioned by the native; which he attributes to arſenical particles aſſociated with it, and from which it could not be freed by repeated ablutions: he therefore juſtly prefers the factitious cinnabar.

[x] Quickſilver is a fluid metallic ſubſtance, of a ſhining ſilver colour, very heavy (being to water as 14 to 1) volatile, and incongealable by any degree of cold hitherto known. It is found ſometimes in its fluid form, in the bowels of the earth, and is then called virgin-mercury; but much the greateſt quantity is drawn, by diſtillation, from a mineral called native cinnabar, and from a kind of hard ſtony ore, of the colour of crocus metallorum. There are conſiderable mines of it in Friuli; others in Hungary and Spain; but we receive the greateſt quantities from the Eaſt Indies.

This capital article of the materia medica, is too frequently adulterated with lead, biſmuth and other mixtures; but the abuſe may be diſcovered by the hydroſtatical balance, or by boiling it with vinegar, which will remain unaltered if the mercury be pure, but acquire a ſaccharine ſweetneſs if adulterated: it may likewiſe be diſcovered by ſimple evaporation, when the mercury will entirely exhale, and leave the foreign metallic ſubſtance behind.

From the experiments of *Boerhaave,* we are taught, that this fluid mineral, by agitation alone in glaſs veſſels, or by being expoſed

Judaicus lapis, *Judaic ſtone.*
Lazuli lapis. *Azure ſtone.*
Lemnia terra. *Lemnian earth.*
Magnes. *The load-ſtone.*
Nephriticus lapis. *The nephritic-ſtone.*
Nitrum [Sal petræ]. *Nitre, or ſalt petre.* A ſalt [y].

Ochra,

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to a ſmall heat, yields a ſoft, black powder, of a ſharp, braſſy taſte: that a greater degree of heat changes mercury into a heavy, ſhining, red, friable powder, of a ſharp, nauſeous taſte; and that both the powders may be revived into fluid quickſilver by a more intenſe heat.——Mercury is ſoluble in all the mineral acids, but with greater facility in one than in another: Vinegar, and the acids extracted from vegetables, have no effect upon it; neither have alkaline or neutral ſalts: the nitrous acid readily diſſolves it into a pellucid liquor; but neither the marine or vitriolic act upon it unleſs highly concentrated.——When quickſilver has been diſſolved in ſpirit of nitre, and the menſtruum evaporated by fire, the mercury remains in form of a red powder; but if the ſame ſolution be precipitated with fixed alkaline ſalt, a ſaffron-coloured powder falls to the bottom; with ſea ſalt it gives a white precipitate; with lime-water a yellow.——Quickſilver triturated with ſulphur, unites with it into a black powder, which on ſublimation becomes an intenſely red, ſhining, radiated maſs. See a farther account of mercury under its different preparations.

[y] Nitre is a white, cryſtalline ſalt, of an acrid, bitter taſte, with a certain ſenſation of cold.—A kind of nitre appears ſometimes in ſpontaneous effloreſcences on old walls, and may be artificially obtained from vegetable and animal matters, by rotting them together, and expoſing them for a long time to the action of the air.—Saltpetre is extracted from three ſorts of earth, black, yellow and white, in the Moguls dominions, and many other places of the Eaſt-Indies, whence all the nitre we have is brought.

Nitre expoſed to a gentle fire, in clean veſſels, eaſily melts, parts with a good deal of phlegm, but undergoes no other alteration: expoſed to a great heat, uſually flies away in fume, or exudes through the veſſel; if any little part remains, it is found changed into a ſharp alkali: if a coal or any other inflammable matter, be thrown

upon

Ochra, *oker*. An earth.
Oſteocolla. A ſtone.

Pe-

upon nitre whilſt in fuſion, a detonation enſues with a bright flame, and conſiderable noiſe; after the detonation is over, a large quantity of alkaline ſalt is found remaining.

Cold water diſſolves pure nitre ſlowly; but by agitation may be made to take up one ſixth of its weight: a ſaturated ſolution of this ſalt ſet to cryſtallize, ſhoots into colourleſs tranſparent cryſtals, in appearance not unlike natural ſprig cryſtal; their figure is that of an hexagonal priſm, terminated by a pyramid of an equal number of ſides. If the liquor which is left after the firſt cryſtallization of rough nitre be evaporated to a dry ſubſtance, and this calcined for ſome time in a crucible, a white powder will remain, called by the name of magneſia alba, which given in the doſe of a dram or two, proves a good purge in hypochondriacal and other diſeaſes. This medicine was for ſome time kept as a great ſecret, under the names of nitrous panacæa, Count de *Palmers* powder, &c. till *Hoffman* made it publick in his *Obſerv. Chymico phyſicæ* *.

The vitriolic acid, or ſubſtances containing it, as certain bolar earths, being mixed along with nitre, and both expoſed to the fire, a red vapour ariſes, which being catched in proper veſſels, proves a ponderous, yellow, acid liquor, which diſſolves all the metals, and ſundry other metallic and earthy ſubſtances, gold excepted.—— Pure nitre, before it has felt the fire, changes not the colour of ſyrup of violets; nor does it curdle milk; it turns ſolution of ſublimate milky, and renders infuſion of galls turbid, and of a whitiſh or aſh-colour.

Dr. *Stahl* has written an expreſs treatiſe upon the medical virtues of nitre †, in which he informs us from his own experience, that this ſalt gently thickens the animal juices, and allays all febrile heats and ebullitions of the blood; that added to gargariſms employed in inflammations of the fauces in acute fevers, it thickens the ſalival moiſture upon the palate and fauces into the conſiſtence of a mucus, which keeps them moiſt for a conſiderable time;

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* *Lib.* ii. *obſervat.* 12.

† *Menſis Martius, de uſu nitri medico polychreſto differens, Opuſculum chymico-phyſico-med.* *p.* 564.

Petroleum, *rock oil.* A bitumen[z].

Plumbum,

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whereas if nitre is not added, a ſudden dryneſs of the mouth immediately enſues: that in ſpitting of blood, nitre given from half a dram to a dram, at proper intervals of time, never failed to put a ſtop to the hæmorrhage; and in other hæmorrhagies likewiſe, it was always found to have the beſt effects, provided it was ſkilfully doſed: that in nephritic complaints, the prudent uſe of nitre is of more ſervice than any of the numerous medicines uſually recommended in this diſeaſe.

This celebrated author likewiſe affirms, from a large number of experiments, that nitre gives great relief in ſuppreſſion and heat of urine, whether ſimple or occaſioned by a venereal taint: that it is of great ſervice in acute and inflammatory pains of the head, eyes, ears, teeth, &c. in all eryſipelatous affections, whether particular or univerſal, and likewiſe in chronic deliriums: that in diarrhœæ happening in petechial fevers, nitre mixed with abſorbents and fixed diaphoretics, had the beſt effects, always putting a ſtop to the flux, or elſe rendering the evacuation ſalutary: that in diarrhœæ happening in the ſmall-pox, it had been employed with the like ſucceſs, two doſes, or three at moſt (conſiſting of two, three or four grains each, according to the age, &c. of the patient) given at the interval of two or three hours, putting a ſtop to the flux, after the bezoardic powders, both with and without opium, had been given without ſucceſs. The ſame author recommends this ſalt likewiſe as a medicine of ſingular ſervice in choleras attended with great anxieties and heat of the blood; in the flatulent, ſpaſmodic heart-burns, familiar to hypochondriacal perſons; and the loſs of appetite, nauſea, heart-burn, vomiting, &c. which gouty patients are ſometimes ſeized with, upon the pains of the feet, &c. ſuddenly remitting. In ſhort, this great phyſician looks upon nitre as an almoſt univerſal medicine; and aſſures us, that no bad conſequences are to be feared from the internal uſe of it: nevertheleſs he obſerves that in a phthiſis and ulcerous affections, it has been found to be of no ſervice; and that therefore its uſe may be ſuperſeded in theſe complaints.

[z] Petroleum is a general name for ſeveral natural, bituminous, mineral oils, which ſpontaneouſly exude from the clefts of rocks, &c. differing only in fluidity from ſolid bitumens. Theſe oils are

found

Plumbum, [Saturnus] *lead.* The metal; gold and ſilver litharge.

Pumex; *the pumice ſtone.*

Rubrica fabrilis, *red oker.* An earth.

Sal ammoniacum, *ſal ammoniac* [a].

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found almoſt in all countries; but in greateſt plenty, in the hot climates; as near Scamacchia in Perſia, where *Olearius* relates, that he has ſeen upwards of thirty ſprings of petroleum.

The beſt petroleum comes from the dutchy of Modena in Italy, where three different kinds of it are found. The firſt, or beſt, is almoſt as clear, fluid, and tranſparent, as water, and of a highly penetrating, but not diſagreeable ſmell: the ſecond is of a clear yellow colour, not ſo fluid as the former, and of a leſs penetrating ſmell: the third is of a blackiſh red colour, of a thicker conſiſtence than the two foregoing, and of a bituminous, ſomewhat ungrateful ſmell. The firſt of theſe is very rarely to be met with; the ſecond, mixed with a little of the third, and ſome ſubtile oil, as that of turpentine, is ſent us inſtead of it.

The firſt kind, or white petroleum, readily catches flame from a candle, and burns entirely away. It is ſpecifically lighter than any other known liquor, the pureſt alcohol not excepted; yet perfectly unites with the eſſential oils of vegetables. Dropped into water, it ſpreads over its ſurface to a ſurpriſing diſtance, and exhibits a variety of colours. The ſtrongeſt froſt makes no impreſſion on it. The mineral acids, when highly dephlegmated, readily unite with petroleum, and give it a pretty thick conſiſtence. Highly rectified ſpirit of wine has no effect upon it, even after a long digeſtion. ——Petroleum diſtilled in cloſe veſſels yields an oily liquor, ſomewhat more pellucid than before; but it loſes by this treatment, a great deal of its native ſmell, and burns with a clearer but more languid flame: a ſmall quantity of a yellowiſh magma remains at the bottom of the diſtilling veſſel.

There is another ſort of petroleum brought from Barbadoes, under the name of piſſelæum Indicum, or Barbadoes tar: this is of a reddiſh black colour, of a diſagreeable ſmell, and of the conſiſtence of common tar.

[a] The ſal ammoniac of the ſhops is an artificial ſaline concrete, brought to us from Egypt, in large, flat, round cakes, convex on

one ſurface, and concave on the other. The beſt of theſe cakes are almoſt tranſparent, colourleſs, dry, and free from any viſible impurities: the others are of a grey, yellowiſh colour, ſometimes black, as the matter is more or leſs impure. This ſalt is ſaid, by ſome authors, to be compoſed from a mixture of urine, common ſalt, and wood-ſoot; by others, to be ſublimed from the ſoot of cow-dung *. Sal-ammoniac is ſoluble in ſomewhat leſs than double its weight of water: the ſolution, being filtered, is colourleſs as water; and upon due evaporation, ſhoots into long ſhining ſpicula, or thin fibrous plates, like feathers. When pure, it neither coagulates milk, nor changes the colour of ſolution of ſublimate. It makes a conſiderable effervefcence with the vitriolic acid, attended with a notable degree of cold. Expoſed alone to a conſiderable heat, it totally ſublimes, without any alteration of its former properties: if previouſly well ground with metallic, and certain other ponderous ſubſtances, it elevates ſome part of them along with itſelf, and concretes with the reſt into a maſs, which readily flows into a liquor in a moiſt air. Mixed with a due quantity of fixed alkaline ſalts, it yields to a ſmall degree of fire, two thirds its weight, of pure volatile alkali; what remains in the ſubliming veſſel being diſſolved in water, and cryſtallized, readily aſſumes the form of cubical cryſtals, like thoſe of common ſalt, the properties of which they likewiſe poſſeſs. A mixture of quicklime and ſal-ammoniac, ſet to ſublime, affords an exceeding penetrating ſpirit, but gives nothing over in the form of a ſolid ſalt: if the quantity of lime is conſiderable, the volatile alkaline part of the ſal-ammoniac is almoſt totally abſorbed by it.

Sal-ammoniac, well purified, is looked upon by phyſicians, as a medicine capable of attenuating viſcid humors; and promoting a diaphoreſis, or the urinous excretions, according to certain circumſtances in the conſtitution, or as the patient is managed during the operation. It has been kept by ſome as a great ſecret in the cure of intermitting fevers; and ſtands recommended by others, as a febrifuge of great virtue. The ſpirit made with quicklime, is held too acrimonious to be given internally, and therefore is rarely made any other uſe of than to ſmell to in faintings, &c.

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* *Mem. de l'acad. des ſciences, pour l'annee* 1735.

Sal commune, *common ſalt*[b].
Sal gemmæ, *ſal gem*[c].
Sal marinum, *ſea ſalt*[b].

Sileſiaca

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[b] There are two methods of obtaining common ſalt from ſaline ſprings and ſea-water: a haſty evaporation of the aqueous fluid, till the ſalt begins to concrete, and fall in grains to the bottom of the evaporating pan, from whence it is raked out, and ſet in proper veſſels to drain from the brine: the other is a more ſlow and gradual evaporation, continued no longer, than till a ſaline cruſt forms at the top of the liquor, which upon removing the fire, ſoon begins to ſhoot, and run into cryſtals of a cubical figure. In the warmer climates, both theſe proceſſes are effected by the heat of the ſun. The ſalts obtained by them differ very conſiderably: that got by a haſty evaporation is very apt to relent in a moiſt air, and run per deliquium, an inconvenience which the cryſtallized ſalt is not ſubject to: this latter is likewiſe found better for the preſerving of meat, and for many other purpoſes.

[c] This is a foſſil ſalt, of which there are various ſorts, differing from one another in degree of purity, tranſparency and colour, being either perfectly tranſparent and colourleſs, of a ſnowy whiteneſs, grey, red or yellow. The firſt ſort is that commonly called ſal gemmæ or gemmeus, from its tranſparent appearance reſembling cryſtal, like which it is frequently cut into toys, little vaſes, &c.—— This ſalt is found in the mountains of Catalonia, not far from Barcelona; and in great plenty, in certain deep mines of prodigious extent, near Cracow in Poland. There is likewiſe ſome of this ſalt dug up in Cheſhire.

The three kinds of common ſalt, though different in appearance, are all of the ſame origin; and, when reduced to the greateſt degree of purity, do not ſenſibly differ from one another.—— Common ſalt eaſily melts in water, of which it requires about three times its own weight: the ſolution, being ſlowly evaporated, and ſet to ſhoot, affords cubical cryſtals, which unite together in the form of hollow truncated pyramids.————Expoſed to the fire, it crackles, and flies about, but ſoon after melts, when it appears as fluid as water; kept in an extreme degree of heat for a long time, ſome part of it flies away in fume, and the remainder acquires

ſome-

Sileſiaca terra, *Sileſian earth.*
Silex. *The flint-ſtone.*
Stannum, [Jupiter] *tin.* The metal.

ſomething of an alkaline nature.——When decrepitated, or melted, it readily runs per deliquium into an unctuous liquor; and at the ſame time depoſites a conſiderable quantity of earth: if this liquor be inſpiſſated, and the dry matter ſuffered to run per deliquium again, it depoſites more earthy feces; and by repeating theſe operations, loſes entirely its ſaline qualities; but if well cryſtallized, it is not eaſily affected by the moiſture of the air.——Thrown on burning coals, it ariſes in the form of a white fume.——Mingled with the vitriolic or nitrous acid, and expoſed to the fire, it partly riſes in a copious white vapour, which being catched in proper veſſels, proves a highly acid liquor, that ferments with fixed alkaline ſalts, and when fully ſaturated therewith, and properly treated, ſhoots into cubical cryſtals, in appearance and ſeveral other reſpects ſimilar to the ſalt from which the ſpirit was at firſt obtained; but proving more acrimonious, more fuſible in the fire, and more fixed therein.

Common ſalt checks fermentation, and prevents putrefaction: hence it is uſed in the maceration of plants, to keep them from putrifying. It has the ſame effects likewiſe on the aliment, received into the ſtomach, where it not only prevents its putrefaction, but reſtrains the immoderate heat and ebullition of the other fluids. It readily unites with volatile ſalts, and turns them of an ammoniacal nature; whence it is capable of allaying the acrimony of the humors, and promoting their excretion by the urinary paſſages. Add to this, that by gently irritating the ſolids, it acts as a ſtimulus, and renders the oſcillation of the fibres more vivid: Hence the many ſingular virtues aſcribed to common ſalt, as of heating, abſterging, promoting appetite, &c. *Helmont* commends the liberal uſe of it as a preſervative againſt the ſtone and gravel; but phyſicians are not at preſent agreed, whether it really prevents or promotes the generation of the calculus: Moſt allow, that ſalted meat or fiſh furniſh matter for this diſeaſe; and that calculous patients are worſe after the uſe of ſuch food. But Mr. *Geoffroy* obſerves, that there is a very great difference between common ſalt and the brine of ſalted meat, for ſalt, by a long digeſtion with the animal

Succinum album——flavum [Carabe]; *white and yellow amber.* Bitumens [e].

Sulphur

animal juice, undergoes a certain degree of putrefaction, and aſſumes, in ſome meaſure, the nature of a volatile ſalt: ſo that although ſalted meat may prove hurtful in this diſeaſe, it does not follow, that common ſalt itſelf will.——If the reader deſires further ſatisfaction with regard to the effects of common ſalt upon the human body, he may conſult *Geoffroy de Mat. Med.* (tom. i. pag. 103.) from whom the latter part of this note is taken.

[e] Amber is a bituminous ſubſtance dug out of the earth, or found upon the ſea-ſhores *: the moſt conſiderable quantities of it are met with along the ſea-coaſts of Poliſh Pruſſia and Pomerania: the chiefeſt mart for this commodity is Koningſburg; but it is imported to us from Dantzick. Mr. *Savary* † makes a pretty ſingular remark, that the true yellow amber is hard to be got; that what is generally ſold for it is a counterfeit made of turpentine and cotton, with yolks of eggs and gum arabic; while others ſell gum copal in its ſtead. I am at a loſs to imagine what authority he had for theſe conjectures, ſince they appear to be utterly without any foundation.—Amber is to be met with of various colours, and in different degrees of purity and perfection; the white is generally eſteemed the beſt for chemical purpoſes; and the dark brown the worſt. Fine amber rubbed briſkly on a woollen cloth, emits a particular ſtrong ſmell, which to moſt people is very agreeable. Boiled in water, it neither ſoftens, nor undergoes any ſenſible alteration. Expoſed to the fire, in an open veſſel, it melts into a black maſs, very like bitumen. Set on fire, its ſmell reſembles that which ariſes from the finer ſorts of pit-coal. Diſtilled in a retort, with a well graduated fire, it yields firſt a phlegm which is lightly acid, intermingled with a copious, thin, limpid oil, which grows thicker, and deeper-coloured, as the fire is increaſed: at length, a white ſaline matter ariſes, and fixes itſelf to the neck of the retort, which is ſucceeded by a groſſer oil, and in a great heat by a black, thick, pitchy matter. There remains at the bottom of the veſſel little or no feces, if the

* *Phil. Tranſ. numb.* 248.

† *Diction. de commerce.*

amber

Sulphur vivum——factitium; *native and common brimſtone* [f].

Talcum, *talc.* A ſtone.

Vi-

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amber be pure; for the method of conducting the diſtillation of amber, the reader may conſult *Pract. Chem. pag.* 223. The oil very much reſembles petroleum, and proves not ſoluble in ſpirit of wine, unleſs firſt artfully ſeparated from its groſſer parts. Salt of amber readily diſſolves in water, and likewiſe in ſpirit of wine; and in a proper quantity of the former, ſhoots into an irregular lump of cryſtals. This ſalt expoſed to a ſmall heat in a glaſs veſſel, firſt melts, then riſes in a white fume, and ſticks to the upper part of the glaſs in white flakes. It effervеſces with alkaline liquors, but makes no ſenſible commotion with acid ones. Amber is partly ſoluble in ſpirit of wine, and likewiſe in ſome eſſential oils; but expreſſed ones are not brought to act upon it, without great difficulty: the ſtronger kind of fixed alkaline lixiviums entirely diſſolve it. There ſeems to be ſomewhat in this ſimple, analogous to ſpirit of ſalt; for having treated it with fixed alkaline ſalts, according to the manner deſcribed by *Boerhaave* *, and affuſed a ſpirit of wine rectified from fixed alkalies, in order to extract a tincture, various ſaline concretions, after ſome time, ſhot at the bottom of the glaſs; theſe cryſtals were evidently cubical, decrepitated on the fire, and exhibited the other marks, by which ſea ſalt is uſually diſtinguiſhed, though I am pretty certain there was no ſea-ſalt, (as might be ſuſpected to be the caſe) amongſt the alkaline ſalts made uſe of.

[f] Sulphur, or brimſtone, is a yellow, mineral ſubſtance, found, either already formed in the bowels of the earth, or obtained from certain ores, by a kind of diſtillation, or compoſed by art †. Sulphur readily melts, in a ſmall heat, into a red liquor; and in cloſe veſſels totally ſublimes in flowers: in open veſſels, its fume turns into flame, and forms a ſuffocating vapour, a ſmall quantity of which ſaturates a large one of fixed alkaline ſalt, but catched by the common methods, proves an acid liquor, ſimilar to that obtained by diſtillation from vitriol. Sulphur, mixed with a fixed alkali,

* See *Elem. chem. proceſſ.* 53.

† *Hoff. obſerv. phyſ. chym. lib.* iii. *obſ.* 9.

melts

Vitriolum album, *white vitriol*[g]. }
Vitriolum cæruleum [Romanum], *blue vitriol*[h]. } Metallic Salts.

melts into a deep red maſs, which, fuſed with metals, renders them all ſoluble in water. Sulphur and mercury are united by ſimple triture into a black powder, and by ſublimation into a beautiful red maſs. Acid liquors have no effect upon it: quicklime and alkaline ſalts, both volatile and fixed, mingled with water, readily diſſolve it, but immediately part with it upon the affuſion of any acid. What is ſold in the ſhops for ſulphur vivum, is no other than the dregs which remain after the ſublimation of the flowers from common ſulphur. If the reader deſires farther ſatisfaction in relation to this article, he may conſult *Practical chemiſtry, p.* 159. It diſſolves in all ſorts of oils.

Sulphur taken inwardly, looſens the belly, and promotes inſenſible perſpiration: it likewiſe tranſpires through the pores of the ſkin, as is evident from the ſulphureous ſmell, perceivable in perſons who have long taken it *. There are many proceſſes in the chemical writers, for purifying and preparing ſulphur for medical purpoſes; but they are either of no manner of ſervice, or injurious to it: the beſt preparation of all is the ſublimation of it into flowers; for, by this means the ſulphur is ſeparated from many accidental impurities, and conſequently better fitted for uſe.

[g] White vitriol, which has been ſuppoſed, till of late, to be an artificial preparation of the common green vitriol, is prepared at Goſlar in Germany, from a particular kind of ore; though ſometimes it is found native in the mines. There appears to be a ſmall quantity of copper and iron in it; but they both ſeparate from it in its purification. Purified, it appears to be a vitriol of a particular kind.

[h] The blue vitriol, which is at preſent in uſe among us, is not brought from abroad, but prepared in England: its cryſtals are not ſo perfect as the foreign ſort.——Expoſed to the fire, it does not melt like green vitriol: it firſt turns white, then of a yellowiſh red on the outſide; and upon increaſing the fire, an acid vapour exhales, leaving behind it a dark red calx. Blue vitriol is ſaid to be found ſometimes naturally formed, in great quantity, in the copper mines in Germany.

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* *Geoff. Mat. Med. tom.* i. *p.* 172.

Vitrio-

Vitriolum viride, *green vitriol* [1].

Unicornu foſſile, [Lithomarga alba] *mineral ivory*. An earth.

GENERAL TITLES, *including ſeveral* SIMPLES.

The five opening Roots.

Smallage.
Aſparagus.
Fennel.
Parſley.
Butchers-broom.

The five emollient herbs.

Marſhmallows.
Mallows.
Mercury.
Pellitory of the wall.
Violets.

The four cordial flowers.

Borage-flowers
Bugloſs-flowers.
Roſes.
Violets.

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[1] Green vitriol, is ſometimes found native in the bowels of the earth; but the ſort commonly to be met with, is artificially prepared from the pyrites and iron. This ſort, being expoſed to a ſoft fire, runs into a liquid form ; and, its aqueous parts exhaling, becomes a white calx : upon increaſing the fire, an acid vapour ariſes, the calx becomes red, and at length, in an intenſe fire, aſſumes a purpliſh colour.

The acid liquor extracted from vitriol, by a chemical analyſis, appears to be perfectly ſimilar, whatever kind of vitriol it be obtained from. Their various colours are owing to the mineral or metallic parts contained in them : the blue colour ſprings from copper ; the green from iron ; the baſis of the white is probably calamine. Each of theſe vitriols contains, in its cryſtalline form, different quantities of an aqueous fluid ; the blue contains the leaſt ; and the green, the moſt.

The four greater hot ſeeds.

Aniſeed.
Caraway-ſeed.
Cummin-ſeed.
Fennel-ſeed.

The four leſſer hot ſeeds.

Seeds of Biſhops-weed.
Stone-parſley.
Smallage.
Wild carrot.

The four greater cold ſeeds.

Seeds of Water-melons.
Cucumbers.
Gourds.
Melons.

The four leſſer cold ſeeds.

Seeds of Succory.
Endive.
Lettuce.
Purſlain.

GENERAL RULES *for the collection of* SIMPLES.

I. ROOTS.

Annual Roots are to be taken up before they ſhoot out ſtalks or flowers. *The Biennial*, chiefly in the autumn after the ſeeds were ſown. *The Perennial*, when the leaves begin to fall off; and therefore, generally in the autumn. Having waſhed the roots from dirt, and ſeparated the withered or corrupted fibres, hang them up in a ſhady place, through which the air freely paſſes, that they may dry moderately. The thicker roots are to be ſlit longitudinally, or cut tranſverſely into thin ſlices, care being taken to preſerve the cortical part; the pith may be thrown away. Such roots as loſe their virtue by this treatment, may be preſerved in dry ſand.

II. HERBS.

Herbs are to be gathered at that time of their ſtrength, when their leaves are perfectly formed, but before they have unfolded their flowers. They are to be dried in the ſame manner as roots.

III. FLOWERS.

Flowers are to be gathered when moderately expanded, on a dry day, before noon: except roſes deſigned for conſerve, which are to be plucked while in the bud.

IV. SEEDS.

Seeds are to be collected when ripe, and beginning to grow dry, but before they fall off ſpontaneouſly.

V. FRUITS.

Fruits likewiſe are to be gathered when ripe, unleſs they are ordered otherwiſe.

VI. WOODS. BARKS.

Woods are to be felled in the winter, which is likewiſe the moſt convenient time to ſhave or take off their Bark.

VII. ANIMALS. MINERALS.

Animals and minerals are to be ſelected in the ſtate of utmoſt perfection, unleſs they are expreſsly preſcribed otherwiſe.

SECTION II.

PREPARATIONS

OF

Certain SIMPLES.

Adeps præparatus.
Fat prepared.

LET the Fat, after the membranes, blood-veſſels and fibres are ſeparated, be waſhed in freſh parcels of water, till the water comes off colourleſs: afterwards gently melt and ſtrain the fat, which is to be kept cloſe from the air.

Aloë præparata, ſeu lota.
Aloes prepared, or waſhed.

Diſſolve Aloes in a ſufficient quantity of water, with a gentle heat: then ſtrain the ſolution from the feces, and evaporate it to the conſiſtence of honey [a].

The

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[a] This ſolution, which, in the former editions of the diſpenſatory, was directed to be exhaled down to the original conſiſtence of the aloes, is now, with great judgment, kept in a ſofter form; which is not only more convenient for mixing up with other ſubſtances, into the form of pills, &c. but prevents a good deal of trouble, and the almoſt unavoidable danger of injuring the aloes. If

The pureſt, bright aloes ſtands not in need of this treatment.

Ammoniacum gummi præparatum.

Gum ammoniac prepared.

Diſſolve Gum Ammoniac in water, or vinegar; ſtrain the ſolution, and with a gentle heat evaporate the menſtruum [b].

Apes præparatæ.

Bees prepared.

Dry Bees included in a proper veſſel, with a very gentle heat.

Bolus Armena præparata.

Bole Armenic prepared.

Diſſolve powdered Bole, in a ſufficient quantity of water, by ſtirring them well together: pour off the water, while loaded with the finer parts of the bole; put freſh on the remainder, repeat the agitation, and decant as before, till nothing is left, except ſand, and ſmall ſtones. Mix all the turbid liquors together, and

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If a large quantity of water be made uſe of, and the ſolution ſuffered to ſtand till grown cold, before it is committed to the ſtrainer, the reſinous part of the aloes will be ſeparated, ſo as not to paſs through: but if this ſhall be thought an inconvenience, it may be avoided, by uſing only ſo much water as is ſufficient to reduce the aloes into a ſoft kind of pulp, which may be preſſed, while hot, through a ſtrainer, entire, the feces alone being left behind.

[b] The quantity of water, or vinegar, uſed here, ſhould be no more than is juſt ſufficient to ſoften the gum, ſo as that it may be preſſed, while hot, through a ſtrainer; to prevent not only an unneceſſary trouble in evaporating a large quantity of fluid, but doing a real injury to the ammoniacum itſelf, by carrying off its more volatile parts.

let them reſt till the bole has ſubſided; which, after the water is poured off, is to be dried for uſe [c].

Bufo præparatus.
Toad prepared.

Put live Toads into an earthen pot, and dry them in an oven moderately heated, till they become pulverable.

Lapis calaminaris præparatus.
Calamine-ſtone prepared.

Heat Calamine-ſtone three times red hot, and quench it as often in water: it is then to be pulverized, levigated on a marble, and reduced to a ſubtile powder, by repeated affuſions of water, in the ſame manner as bole Armenic [d].

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[c] By the means of water, a powder may be obtained of any degree of fineneſs or ſubtility, without the leaſt admixture of any groſs parts, which are always found in preparations made after the common methods, however carefully the operation may have been performed, as has been already obſerved by the author of the *Pharmacop. reform.* p. 34.

The judicious compilers of the *Pharmacopœia pauperum*, for the uſe of the royal hoſpital at Edinburgh, direct Antimony to be prepared in the ſame manner as is ordered above for bole Armenic. By this means the antimony may be reduced to ſo great a ſubtility and tenuity of parts, as to turn out a medicine of conſiderable virtue, in caſes where this mineral, given in a groſſer form, uſually proves an unactive load upon the viſcera, or at beſt paſſes off without any other ſenſible effect, than an increaſe of the groſſer evacuations.

[d] *Fountain* is now directed in this, and ſeveral other ſimilar preparations, inſtead of the *Roſe* water before ordered; the former being equally as fit for the purpoſe, and more eligible than the other, as it ſaves a needleſs expence.

Chelæ cancrorum præparatæ.
Crabs claws prepared.

Let the black tips of Crabs claws be reduced to powder, and levigated on a marble [e].

Corallia præparata.
Coral prepared.

Coral is prepared in the ſame manner as crabs claws; ſo likewiſe is

Cornu cervi calcinatum.
Hartſhorn calcined.

Galbanum præparatum.
Galbanum prepared.

Galbanum is prepared in the ſame manner as gum Ammoniacum.

Hæmatites & Lazuli lapides præparati.
Hæmatites & lapis lazuli prepared.

Powder, and levigate them on a marble [f].

Lithargyri præparati.
Litharge prepared.

Litharge is prepared in the ſame manner as bole Armenic.

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[e] The balm-water, and the unneceſſary trouble of forming this powder into troches, are now dropt; purſuant to the reſolution which the college of Edinburgh ſeem to have embraced, of giving the apothecary no more trouble, than is abſolutely neceſſary.

[f] The *Hæmatites*, which is an iron ore, is moſt conveniently levigated between two iron planes: for if the common levigating ſtones be made uſe of for this purpoſe, the preparation, when finiſhed, will contain almoſt as much of the inſtrument as of the hæmatites.

Margaritæ præparatæ.
Pearls prepared.

Pearls are prepared in the ſame manner as crabs claws.

Martis limatura præparata.
Filings of iron prepared.

Set filings of iron, firſt cleanſed by the magnet [g], in a moiſt place, that they may turn to ruſt; which is afterwards to be ground into an impalpable powder. They may likewiſe be prepared by wetting them with vinegar.

Millepedæ præparatæ.
Millepedes prepared.

Millepedes are prepared in the ſame manner as bees.

Oculi cancrorum præparati.
Crabs eyes prepared.

Crabs eyes are prepared as the claws.

Opium præparatum, vulgo extractum opii.
Opium prepared, commonly called extract of opium.

The Opium is to be diſſolved in water, and prepared in the ſame manner as aloes [h].

Opopo-

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[g] The cleanſing of filings of iron, by means of a magnet, is extremely tedious, and does not anſwer ſo well as might be expected; for, if they are at all ruſty, they will not be attracted by the magnet; nor will they, by this means, be perfectly ſeparated from braſs, copper, or other metallic ſubſtances, which may adhere to them. The ruſt of iron is to be procured, at a moderate rate, from the dealers in iron, perfectly free from any impurities, except ſuch as may be waſhed off by water. The triture, ordered above, ſhould be performed in an iron mortar, and with an iron peſtle, for reaſons ſufficiently obvious.

[h] The committee of the college of phyſicians of London, have con-

Opoponax præparatus.
Opoponax prepared.

Opoponax is prepared, as gum ammoniac: ſo likewiſe is

Sagapenum.

Plumbum uſtum.
Burnt-lead.

Melt Lead over a gentle fire, and keep it continually ſtirring, with an iron ſpatula, till it is changed into a powder [i].

Sanguis hirci præparatus.
Goats-blood prepared.

About the beginning of ſummer, take blood from any convenient artery of a middle-aged Goat, and expoſe it, in a proper veſſel, to the ſun, or a moderately heated oven, till ſufficiently dried.

Succinum præparatum.
Amber prepared.

Amber is prepared in the ſame manner as crabs claws.

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contrived a method of purifying opium, ſo as to preſerve its volatile, reſinous, and gummy parts, entire. This they effect, by ſoftening, into the conſiſtence of a pulp, a pound of opium, cut into ſlices, in a pint of boiling water; and, whilſt hot, forcibly preſſing it through a cloth. The ſtrained opium may be brought to its former conſiſtence, by continually ſtirring it in a ſhallow veſſel, over a gentle fire. See *Pharm. reform.* p. 38. and *Appendix*, p. 294. where are ſome obſervations upon this proceſs.

[i] A flat-bottomed, ſhallow, iron pan is a convenient veſſel for this purpoſe. No more lead ſhould be uſed at a time, than is juſt ſufficient, when melted, to cover the bottom.

Teſtæ oſtreorum præparatæ [k].
Oiſter-ſhells prepared.

Waſh, and throughly cleanſe from all filth, the hollow Shells of oiſters, (the flat ones are to be thrown away); then expoſe them to the ſun for ſome days, and rub them in a marble mortar, till they come into a kind of paſte, which is to be again dried in the ſun, and afterwards ground to an impalpable powder.

Tutia præparata.
Tutty prepared.

Tutty is prepared in the ſame manner as lapis calaminaris.

Whenever theſe medicines occur in this pharmacopœia, they are ſuppoſed to be prepared in the manner above deſcribed; unleſs they are expreſsly ordered otherwiſe.

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[k] *Prepared egg-ſhells.*——Boil egg-ſhells in water, and take off the inner ſkin; then grind and levigate them into a ſubtile powder. *Pharmacop. paup.*

SECTION III.

DISTILLED WATERS.

Aquæ ſtillatitiæ ſimplices.	*Simple diſtilled waters of*
Angelicæ.	*Angelica.*
Artemiſiæ.	*Mugwort.*
Cardui benedicti.	*Carduus benedictus.*
Ceraſor. nigr. *fruct. contus. nucleis.*	*Black cherries, with the ſtones cracked.*
Chamæmeli *flor.*	*Camomile-flowers.*
Fœniculi.	*Fennel.*
Hyſſopi.	*Hyſſop.*
Meliſſæ.	*Balm.*
Menthæ.	*Mint.*
Petroſelini.	*Parſley.*
Pulegii vulgaris.	*Penny-royal.*
Roſarum *flor.*	*Roſes.*
Rutæ.	*Rue.*
Sabinæ.	*Savin.*
Sambuci *flor.*	*Elder-flowers* [a].

GENERAL

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[a] The ſimple waters of common wormwood, poppy-flowers, and frogs-ſpawn, are now omitted: the firſt was too unpleaſant, and the others too inſignificant, to deſerve a place any longer in this pharmacopœia. The number of ſimple waters is, by this means, ſo far reduced, as to leave none that can be excepted againſt, unleſs the *aqua artemiſiæ* and *cardui benedicti*, for both which, there is ſtill ſome

GENERAL RULES *for the diſtillation of* SIMPLE WATERS.

I. The plants, and their parts, ought to be freſh gathered.

II. Having bruiſed them a little, pour on them thrice their quantity of ſpring-water: but this quantity may be diminiſhed or increaſed, as the plants are more or leſs juicy than ordinary. Black cherries require only a ſmall proportion of water.

The diſtillation may be performed in an alembic, with a refrigeratory, (the junctures being luted), and continued as long as the water, which comes over, is perceived to have any ſmell or taſte of the plant[b], care being all along taken to avoid an empyreuma.

III. Thoſe plants which abound with an aromatic fragrant oil, are to be committed immediately to diſtillation. But ſuch as contain a more fixed oil, or owe part of their virtues to a kind of volatile ſalt, as Carduus benedictus, Mugwort, Camomile, ought firſt to undergo an imperfect fermentation, with the addition of yeaſt; that is, they ſhould be diſtilled, as ſoon as the fermentation is fully begun, without ſtaying till it is finiſhed.

ſome ſmall demand. The black cherry water, as uſually made in the ſhops, was upon trial found innocent: the counterfeiting it with bitter almonds is a practice unknown in Scotland.

[b] The directions are here more ſcientifically ſet down, than in the former editions of this book; for it is impoſſible to exactly determine the preciſe quantity of water, that is to be drawn off from a certain weight of ingredients. The diſtillation may be always continued ſo long (and no longer) as the water, which comes over, has any taſte or ſmell of the plant it is drawn from.

finiſhed [c]. The waters of Balm and Rue require to be cohobated [d].

IV. If any drops of oil ſwim on the ſurface of the waters, they are to be carefully taken off.

Aqua cinnamomi ſine vino.
Cinnamon water without ſpirit.

Take of Cinnamon, one pound,
Water, a gallon and a half.

Let them ſteep together for two days, and then diſtill off the water, till it ceaſes to run milky.

Aqua cinnamomi cum vino.
Cinnamon water with ſpirit.

Take of Cinnamon, a pound,
French brandy [e], a gallon.

Let

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[c] The principle, upon which certain vegetable ſubſtances are directed to undergo a ſlight degree of fermentation with yeaſt, before they are committed to diſtillation, is certainly juſt; though great care ought to be taken, not to give any foreign or diſagreeable reliſh to the waters, by an ill-choſen ferment, or uſing too large a quantity of any. But I ſhould conceive that carduus benedictus is not a fit ſubject for diſtillation, however it be opened, or prepared. Rue, and ſuch other ſubſtances, whoſe oil is locked up, and retained, by a ſtrong mucilaginous matter, may undoubtedly be treated to great advantage, by the method here recommended.

[d] The waters, diſtilled from balm and rue, are judiciouſly ordered to be poured upon freſh ingredients, and diſtilled a ſecond time; which proceſs ſhould be repeated, according to the diſcretion of the apothecary; for by this means theſe herbs, particularly balm, which afford waters of little or no virtue at the firſt diſtillation, may be brought to yield ſuch as contain a great deal, at a ſecond or third, and prove remedies of greater efficacy, in the cure of diſeaſes, than is uſually expected from medicines of this claſs. *Boerhaave* has wrote excellently well upon this ſubject; and ſome further obſervations on ſimple waters may be ſeen in *Pharm. reform.* p. 99.

[e] The French brandy, here directed, however good, has a flavour

Let them ſteep together for two days, and then diſtill off one gallon[f].

Aqua reginæ Hungariæ.
Hungary water.

Take Flowers of Roſemary, juſt gathered, two pounds,
Rectified ſpirit of wine, two quarts.

Put them together, and diſtill them immediately, in a water-bath[g].

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vour in it, not at all agreeable to the fragrancy of cinnamon; and this comes over plentifully towards the end of the diſtillation, at the very time, when the oil of the cinnamon ariſes in greateſt abundance. It ſhould ſeem, therefore, more eligible, to uſe a ſpirit, which has little or no flavour of its own, for this purpoſe. French brandy, where it can be eaſily procured, may be in good meaſure cleanſed from its peculiar ſmell and taſte, by mixing it with about half its quantity of pure water, and diſtilling it with a ſlow and well managed heat: the diſtillation ſhould be continued no longer than while the ſpirit comes over bright, clear, and well taſted: what runs afterwards may be ſaved for inferior purpoſes. This ſpirit may be reduced to the ſtrength of French brandy, by the addition of as much water, as will bring them both to the ſame ſpecific gravity, or weight, which may be eaſily determined by the hydrometer, as lately improved by Mr. *Clarke*.

[f] The diſtillation of cinnamon water with ſpirit was, in the former editions of this book, ordered to be continued till it ceaſed to come over milky. This direction, though extremely proper when water alone was made uſe of, became otherwiſe, when a ſpirit was employed: for in this caſe, what ariſes at firſt is perfectly limpid and clear; the liquor only becoming turbid towards the end of the diſtillation.

[g] The ſpirit choſen for the diſtillation of Hungary water, ſhould be perfectly free from all flavour, and as ſcentleſs and taſteleſs as poſſible; the flowers ſhould be full blown, not bruiſed, or ſpoil'd with rains, and gathered as ſoon as ever the morning dew is off them.

COMPOUND WATERS.

Aqua abſinthii compoſita.
Compound wormwood water.

Take Roots of Calamus aromaticus,
Outer part of freſh Orange-peel,
Cinnamon, of each four ounces;
Roman Wormwood, half a pound;
Mint, three ounces;
Leſſer Cardamoms,
Mace, of each one ounce.

Having cut the herbs, roots and orange-peel, and bruiſed the ſeeds and ſpices, pour on them two gallons of French brandy: let the whole ſteep together for four days, and then draw off two gallons[h].

Aqua alexeteria.
Alexeterial water.

Take Elder flowers,
Leaves of Scordium, each two pounds;
Angelica,
Balm, each one pound;
Mint,
Rue, each half a pound.

To theſe, freſh gathered, pour three gallons of water, and diſtill according to art[i].

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[h] This water is certainly much altered for the better. The ſmall quantity of ſage, formerly ordered, could be of no manner of ſervice; and the galangal, zedoary and nutmegs were ſupernumerary articles, in a compoſition containing mace and calamus aromaticus. The ſmell and taſte of common wormwood are too diſagreeable, to counterbalance any advantages expected from it; and therefore Roman wormwood is well ſubſtituted in its room. Nutmegs are, perhaps, a more ſuitable ingredient than mace, not only as being a cheaper ſpice, but as they are better fitted for diſtillation.

[i] Two ingredients are lopt off from this compoſition: the one

Aqua bryoniæ compoſita.
Compound bryony water.

Take Roots of Bryony, one pound;
Wild Valerian, four ounces;
Penny-royal,
Rue, each, half a pound;
Leaves of Mugwort,
Flowers of Feverfew,
Tops of Savin, each an ounce;
Outward part of freſh Orange-peel;
Lovage-ſeed, each, two ounces.

Having cut, or bruiſed, thoſe ingredients, which require ſuch treatment; ſteep them, for four days, in two gallons and a half of French brandy: and then draw off, by diſtillation, the ſame quantity of liquor[k].

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was too inſignificant an article, and the other a too unpleaſant one, to be any longer continued.

The alterations, which this water has received in the *pharmacopœia pauperum*, are judicious and well founded. The balm, in moſt ſeaſons, affords ſo little in diſtillation, as to be an ingredient juſtly exceptionable; and, although the ſame objection cannot be brought againſt the mint and rue, yet theſe, as they increaſe the number of the ingredients, without any ſuitable advantage, and tend to make the water leſs pleaſant, are deſervedly rejected.——Take of freſh elder flowers, three pounds; freſh leaves of angelica and ſcordium, of each a pound and a half; water, as much as is ſufficient. Draw off, by diſtillation, three gallons. *Pharm. paup.*

[k] The virtue of this water is conſiderably improved by the addition of valerian root. The compoſition is retrenched of its moſt inſignificant ingredients; though there ſtill remain ſeveral which a ſeverer ſcrutiny, than perhaps theſe kinds of medicines deſerve, would have rejected.

In the *Pharmacopœia pauperum*, this water, having loſt the ingredient which gives it the name above, is called *aqua hyſterica*. The reduction of the number of ingredients is not leſs judicious than remarkable: and the whole is well contrived for the purpoſes for which it ſeems principally intended.——*Hyſteric water* of the

Aqua epidemia.
Plague-water.

Take Roots of Maſterwort,
Butterbur, each four ounces;
Virginian Snake-root,
Zedoary, each two ounces;
Angelica ſeeds,
Bay-berries, each three ounces;
Leaves of Scordium, ſix ounces[1].

To theſe, cut or bruiſed, pour two gallons of French Brandy: digeſt them together, for four days; and then draw off, by diſtillation, two gallons.

Aqua mirabilis.
The wonderfull water.

Take of Cinnamon, two ounces;
Outward part of Lemon-peel, one ounce;
Seeds of Angelica,

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pharm. paup. Take of wild valerian root, a pound and a half; lovage-ſeed, half a pound; ſavin, three ounces; French brandy, two gallons. Let them ſteep together, for the ſpace of four days; and then diſtill off two gallons.

[1] This water has five leſs ingredients than it had formerly: of thoſe which now remain, the two firſt are perhaps the moſt liable to objection of any. The compilers of the *hoſpital pharmacopœia* have altered this water in the following manner.——Take roots of maſterwort, a pound and a half; angelica ſeeds, half a pound; elder flowers, leaves of ſcordium, of each four ounces; French brandy, three gallons. Steep them together for the ſpace of four days; and then draw off, by diſtillation, two gallons and a half.————The butter-bur, which is here left out, is certainly an uſeleſs ingredient; as affording nothing upon diſtillation: nor is the zedoary a ſubſtance proper for this treatment. This water is leſs unpleaſant than that above; its ingredients fewer, and better choſen: nevertheleſs, ſome of its articles may ſtill be diſpenſed with, and to the whole given a greater air of ſimplicity and elegance. But, as the articles which

Leſſer Cardamoms,
Mace, each half an ounce;
Cubebs, two drams;
Leaves of Balm, ſix ounces.

On theſe ingredients, bruiſed, pour a gallon of French Brandy: digeſt for four days, and then diſtill off a gallon [m].

Aqua petroſelini compoſita.
Compound parſley-water.

Take Roots of Parſley, four ounces;
Freſh Horſe-radiſh roots, three ounces;
Juniper-berries, ſix ounces;
Tops of St. Johns wort,
Leaves of the biting Arſmart,
Elder-flowers, each two ounces;

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might be objected to are very cheap, eaſily procured, and by no means injure the water, the compoſition may be deemed ſufficiently reformed, for the purpoſes it is intended.

[m] This water has likewiſe loſt five of its moſt uſeleſs articles, without loſing any of its virtues. It is extremely rich of the ſpices; and, if there be no objection to the balm, is ſufficiently uniform as to the ingredients, agreeable to the palate, and a warm, ſerviceable cordial.

The alterations which this water has received in its introduction into the *Pharmacopœia pauperum*, are evident marks of great ſkill and judgment in theſe matters. The cinnamon and mace, two ingredients here juſtly exceptionable, on account of their price, are prudently dropt; and their place ſupplied with canella alba, a moſt happily choſen ingredient, upon all accounts; while a proper increaſe of the cardamom-ſeeds more than amply ſupplies the loſs of the cubebs. ——*Aqua mirabilis* of the *hoſpital diſpenſatory.* Take canella alba, half a pound; freſh outward peel of lemons, four ounces; leſſer cardamom-ſeeds, two ounces; French brandy, two gallons. Let them ſteep together for four days; and then diſtill off two gallons.

Seeds of Wild Carrot,
Sweet Fennel,
Parſley, each an ounce and a half.

Having cut or bruiſed theſe ingredients, ſteep them for the ſpace of four days, in two gallons of French Brandy, and then draw off, by diſtillation, the ſame quantity of liquor [n].

Aqua pœoniæ compoſita.

Compound pœony-water.

Take Roots of Pœony, two ounces;
Wild Valerian, an ounce and a half;
White Dittany, one ounce;
Pœony ſeeds, ſix drams;
Flowers of Lilly of the valley, freſh gathered, four ounces;
Lavender,
Roſemary, each two ounces;
Tops of Betony,
Marjoram,
Rue,
Sage, each an ounce.

To theſe, cut or bruiſed, pour a gallon and a half of French Brandy; and having ſuffered them to ſteep together for four days, diſtill off a gallon and a half [o].

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[n] There is no great demand for this water, the compound horſe-radiſh water being more frequently preſcribed in the intentions for which it is deſigned. For this reaſon probably, the college have not thought fit to make any other alteration in this water, than an increaſe of the quantity of the juniper berries, which ſeem to be the beſt ingredient in it.

[o] As this water may be eaſily ſupplied with the *compound ſpirit of lavender* diluted, it might have very well been expunged. For this reaſon, and becauſe it is very ſeldom preſcribed, the college have not thought it worth while to make any further correction of it, than throwing out the ſtœchas flowers, which, beſides their

Aqua raphani compoſita.
Compound horſe-radiſh water.

Take Freſh Roots of Horſe-radiſh, three pounds;
Leaves of Garden Scurvy graſs,
Water Creſſes, each two pounds;
Outward peel of Oranges,
Lemons, each three ounc.
Canella alba, four ounces;
Nutmegs, one ounce.

Cut or bruiſe theſe ingredients; then ſteep them for two days in three gallons of French Brandy, and let the ſame quantity of liquor be drawn off by diſtillation [p].

Aqua

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being ſuperfluous articles in a compoſition containing thoſe of lavender and roſemary, were exceptionable on another account, for thoſe which our ſhops ſupply us with have rarely any virtue to recommend them. See *Pharmacop. Reform.* p. 206.

The ingredients of this water are too numerous: the pœony roots and ſeeds, from which it takes its name, yield nothing by diſtillation: the dittany, betony and ſage, though all of the aromatic tribe, afford ſo little, as not to deſerve a place among other more powerful ingredients.

[p] This water has received a conſiderable alteration for the better. The quantity of its moſt capital ingredient is increaſed; and the arum root (an article the moſt liable to objection, as it affords little or nothing by diſtillation) judiciouſly dropt. In ſhort, if this water has not ſo great a title to ſimplicity as ſome modern compoſitions, it has at leaſt an equal one to any, in point of efficacy and elegancy.

The alteration which the compound horſe-radiſh water of the ſhops has received in paſſing into the *hoſpital diſpenſatory*, affords a freſh inſtance of the great ſkill of the compilers: for it is a conſiderable point to leſſen the expence of preparations, without impairing their efficacy or elegancy. That this is here effected, will ſufficiently appear from comparing the two forms together——— *Compound horſe-radiſh water* of the *pharmacopœia pauperum.*

Take freſh horſe-radiſh root, garden ſcurvy graſs, of each three pounds;

Aqua theriacalis.
Treacle-water.

Take Roots of Butterbur, one pound;
Angelica,
Maſterwort, each half a pound;
Zedoary, four ounces;
Leaves of Rue,
Scordium, each ſix ounces;
Theriaca, one pound;
French Brandy, three gallons.

Digeſt them together for four days; and then diſtill off two gallons and a half; to which add half a gallon of diſtilled Vinegar [q].

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pounds; freſh outward peel of Seville oranges, juniper berries, of each half a pound; canella alba, four ounces; French brandy two gallons. Steep the berries and canella in the ſpirit for four days; then adding the reſt of the ingredients, commit the whole to diſtillation, and draw off two gallons.

[q] This water is ordered not to be drawn ſo low as the other ſpirituous waters, and with great judgment; for the addition of the vinegar conſiderably weakens it, and if drawn low, renders it extremely unſightly. It is left to the choice of the operator to employ either *Andromachus*'s, or the *Edinburgh* treacle: the latter is the beſt of the two; but neither of them are proper ſubjects for diſtillation; for beſides that three fourth parts are honey, which yields nothing, they contain ſeveral other ingredients, which afford as little: this article therefore might be well dropt, and its place ſupplied with two or three ounces of ſnake-root. The rue leaves ought to be freſh gathered; for when dry they are good for nothing. Upon the whole, this water might be well omitted, and its place ſupplied by the plague-water mixed with diſtilled vinegar, according to the method of the *hoſpital diſpenſatory*.

GENERAL RULES *for the diſtillation of* COMPOUND WATERS.

I. The herbs, and their parts, ought to be moderately and newly dried, except ſuch as are ordered freſh gathered.

II. After the ingredients have been ſteeped in the ſpirit for the time preſcribed, as much water (or more) is to be added, as will be ſufficient to prevent an empyreuma.

III. The liquor which comes over firſt in diſtillation is by ſome kept by itſelf, under the title of ſpirit, and the other runnings, which prove milky, fined down by art; but it is more eligible to mix all the runnings together, without fining them; that the waters may poſſeſs the entire virtues of the plants, which is a circumſtance to be more regarded than their fineneſs or ſightlineſs [r].

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[r] If the diſtillation be managed with a proper degree of ſkill and care, the heat applied equable and gentle, and no more drawn off than is expreſsly ordered in the directions above; moſt of the waters will appear bright and fine: ſome of them which look turbid juſt after they are drawn, will grow clear after ſtanding a few days.

The practice of ſaving ſome of the firſt runnings, under the name of ſpirit, which is here forbid, is certainly very injurious to the compoſition, ſince it robs the water of the more volatile and finer parts of the ingredients. Nor is the method of fining turbid waters by alum, &c. leſs culpable; for theſe additions produce their effect only by ſeparating from the waters what they had gained from the ingredients.

SECTION IV.

DISTILLED SPIRITS.

Spiritus vini rectificatus.
Rectified ſpirit of wine.

TAKE any quantity of French Brandy, and diſtill it to one half, with a very gentle heat.

This rectified ſpirit being digeſted for two days with one fourth its quantity of dry ſalt of tartar in powder, and then diſtilled in a glaſs cucurbit, with a very gentle heat, becomes alcohol.

Spiritus cochleariæ.
Spirit of ſcurvygraſs.

Take Scurvygraſs, freſh gathered, and bruiſed, ten pounds;
Rectified ſpirit of wine, five pints.

Steep them together for twelve hours, and then diſtill off, with the heat of a water-bath, five pints of ſpirit.

Spiritus lavendulæ compoſitus.
Compound ſpirit of lavender.

Take three gallons of French Brandy. Gradually drop into it, ſtirring the mixture now and then, of the diſtilled Oils of

Lavender, an ounce and a half;
Roſemary, an ounce;
Marjoram, ſix drams;
Lemon-peel, half an ounce;
Nutmegs, three drams;
Cloves, two drams;
Cinnamon, one dram.

Take one half of the ſpirit, thus impregnated with the oils, and diſtill it in balneo mariæ to two thirds. In the ſpirit which comes over, ſuſpend (tied up in a linnen cloth) of

Red Saunders, in powder, one ounce;
Cochineal,
Engliſh Saffron, each two drams.

To which, if you would have the ſpirit perfumed, add of

Ambergreaſe, a ſcruple;
Muſk, half a ſcruple[r].

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[r] This compoſition has quite a new appearance, and bears an uncommon air of elegance and ſimplicity; at the ſame time, promiſing to be a medicine of uncommon efficacy. A great number of uſeleſs articles are rejected, and only ſuch retained as are unexceptionable, with regard to the intention of the medicine. Nor is the alteration from plants to their eſſential oils leſs commendable; for, by this means, we are enabled to reduce the medicine to a certain degree of ſtrength: but it behoves the apothecary to be extremely careful in the preparation, or choice, of theſe oils; upon which the goodneſs of the medicine abſolutely depends. Perhaps fewer oils might have ſerved the purpoſe, and thoſe might have been proportioned more to the advantage of this preparation and the following. But this could not be done without altering their price; a circumſtance carefully to be avoided, to prevent ſophiſtication. They may be made richer, of the oil of cinnamon for inſtance, in extemporaneous preſcriptions. The compilers of the *hoſpital diſpenſatory* ſeem, nevertheleſs, to think, that the form above is ſtill too expenſive for their purpoſes; and have therefore introduced a cheaper of their own. ——— *Compound ſpirit of lavender*, of the *pharmacopœia pauperum.* Take flowers of lavender, freſh gathered, a pound and a half; freſh flowers of roſemary, half a pound; freſh outward part of lemon-peel, three ounces; rectified ſpirit of wine, a gallon and a half. Diſtill, in balneo mariæ, to dryneſs: in the diſtilled ſpirit ſteep, for two days, of cloves, cubebs, and ſhavings of red ſaunders, each two ounces: then ſtrain out the ſpirit for uſe.

Spiritus ſalinus aromaticus.
Saline aromatic ſpirit.

To the other half of the above ſpirit, impregnated with the oils, add of Volatile ſalt of Sal ammoniac, eight ounces; and immediately diſtill the mixture, in balneo mariæ, till two thirds are come over[f].

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[f] Theſe kinds of compoſitions are called in different pharmacopœias by different appellations; the above ſeems choſen with great propriety, ſince it at once diſtinguiſhes it from all other compoſitions of this book, and likewiſe denotes the intention of the preſcriber, which was to flavour a ſaline ſpirit with aromatics. The compoſition above deſcribed is, indiſputably, a ſerviceable and elegant medicine; but it is preſumed that the dearneſs of ſome of the ingredients may make it very liable to ſophiſtication; particularly ſince abuſes of this kind are not ſo eaſily diſcoverable (by reaſon of the acrimony of the volatile ſalt) as in the compound ſpirit of lavender.

The following form in the *hoſpital diſpenſatory*, is, perhaps, as little liable to objection as any medicine of this kind.———Take of the diſtilled oils of roſemary, one ounce; of lemon-peel, ſix drams; and of cloves, half an ounce; volatile ſalt of ſal ammoniac, eight ounces; French brandy, a gallon and a half. Diſtill off one gallon.

Several other forms of theſe kinds of medicines, with particular directions for making them to advantage, may be ſeen in *Pract. Chem.* p. 402, to which the reader, if he deſires farther ſatisfaction in this affair, is referred.

SECTION V.

WATERS, by INFUSION, and VINEGARS.

Aqua aluminoſa.
Alum-water.

TAKE of Sublimate corroſive Mercury,
Roch Alum, each two drams.

Let them be ground into powder, and boiled, in a glaſs veſſel, with a quart of water, to the conſumption of one half. Then ſuffer the feces to ſubſide, and pour off the clear liquor [a].

Aqua calcis, ſeu benedicta.
Lime-water.

Take of Quicklime, one pound;
Warm water, a gallon.

Stir them well together, and when the lime has ſubſided, pour off the clear liquor, which keep in cloſe veſſels.

This water may likewiſe be made from calcined Oiſter-ſhells [b].

Aqua

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[a] The frog-ſpawn water and roſe water, formerly ordered in this compoſition, are exchanged for common water, which is full as good for the purpoſe. The quantity of the alum is likewiſe doubled. But the compoſition might perhaps have as well been rejected; ſince it is a very unartful one, and very little in uſe.

[b] The lime-water prepared from calcined oyſter or cockle-ſhells appears from ſome experiments made by Dr. *Whytt*, * to be a much more

* *Med. Eſſays, abr. vol.* i. *p.* 495, 503.

Aqua benedicta compoſita.
Compound lime-water.

Take Shavings of the wood, and bark of Saſſafras, two ounces;
Nutmegs, three drams;
Liquorice root, ſliced or well bruiſed, an ounce;
Lime-water, freſh made, two quarts.

Digeſt them for two days in a cloſe veſſel, and to the liquor, after it has been ſtrained, add two ounces of the Balſamic ſyrup [c].

Aqua ophthalmica.
Eye-water.

Take Bole Armenic, unprepared, two ounces;
Tutty, unprepared, one ounce;
White Vitriol, half an ounce;
Camphor, two drams.

Let theſe ingredients, reduced to powder, be boiled a little, with two quarts of water, and frequently ſtirred. Then ſuffer the feces to ſubſide, and pour off the water for uſe [d].

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more powerful medicine in caſes of the ſtone, than that obtained from common or ſtone lime; the diſſolving power of the two former being more than double to that of the latter.

[c] This compoſition is taken from *Bates's pharmacopœia*; but the raiſins there ordered are here omitted, as they never fail to ferment and ſpoil the medicine: the balſamic ſyrup is not liable to this inconvenience.

[d] *Eye-water* of the *hoſpital diſpenſatory*——Take white vitriol, half an ounce; water, four pints. Boil them, till the vitriol is diſſolved; and then filter the liquor.——This ſimple eye-water is perhaps fully as efficacious for the purpoſes it is intended to anſwer, as the more compound one above. For the bole Armenic and tutty cannot be ſuppoſed to contribute any virtue to it; ſince their indiſſolubility and gravity muſt neceſſarily carry them down to the feces, from which the medicine is ordered to be decanted. Whenever either

Aqua phagedænica.
Phagedænic water.

Diſſolve half a dram of Sublimate corroſive Mercury, in a pint of Lime-water.

Aqua ſapphirina.
Sapphire-coloured water.

Diſſolve two drams of Sal Ammoniac in a pint of Lime-water newly made; and let the ſolution ſtand in a braſs veſſel, till it has acquired a blue colour.

Aqua ſtyptica.
Styptic water.

Take Blue Vitriol,
    Roch Alum, of each half a pound;
    Water two quarts.

Boil, till the ſalts are diſſolved; then filtre the liquor, and to every pint of it add a dram of Oil of Vitriol.

VINEGARS.

Acetum diſtillatum, ſeu ſpiritus aceti.
Diſtilled vinegar, or ſpirit of vinegar.

Put any quantity of the beſt [e] vinegar, into a glazed earthen pot, and with a gentle heat, in balneo mariæ, evaporate

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ther of theſe ſubſtances is wanted, it ſeems the beſt way to add them occaſionally; and to make uſe of the liquor, while it remains turbid. Camphor, it is ſaid, will communicate a little matter of its taſte and ſmell to boiling water: but whether ſo much of it remains in the liquor, as to give any degree of virtue, we ſhall not take upon us to determine; but only obſerve, that in the hoſpital form it is omitted.

[e] Wine-vinegar is more proper for diſtillation than beer-vinegar; for the latter, however acid and fine, contains a large portion of a viſcous, mucilaginous ſubſtance, as is evident from the ſlimineſs and ropineſs, to which this kind of vinegar is very ſubject: this not only hinders

evaporate about one fourth part of it: then diſtill the remainder in an alembic with a glaſs head, with a fire gradually increaſed, as long as the ſpirit comes off clear [f].

Acetum roſatum.

Vinegar of roſes.

Take Red Roſes, clipped from the white heels, and dried, one pound;
The ſtrongeſt Vinegar, a gallon.

Expoſe them to the ſun, in a cloſe veſſel for forty days, and then ſtrain off the liquor.

This preparation may be ſooner made by digeſting the ingredients together in a water-bath kept boiling hot, for ſome hours.

In the ſame manner are prepared,

Acetum Rutaceum,	*Vinegar of Rue.*
Sambucinum, &c.	*Elder, &c.*

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hinders the acid parts from ariſing freely, but is likewiſe very apt to make the vinegar boil over into the recipient, and at the ſame time ſubjects it to receive a diſagreeable impreſſion from the fire: and indeed, it is extremely difficult to avoid an empyreuma, even with the beſt vinegar, if the diſtillation be continued to any great length. The beſt method of preventing this inconvenience is, if a retort be made uſe of, not to place the ſand too high up its ſides; and when ſomewhat more than half the vinegar is come over, to pour to the remainder a quantity of freſh vinegar, made hot, equal to that of the liquor drawn off: this may be repeated three or four times. If the common ſtill be employed for this purpoſe, the head ſhould be made of pure tin, and freſh vinegar frequently added, in proportion as the diſtilled liquor runs off; otherwiſe an empyreuma is unavoidable. See *Pract. Chem. p.* 292.

[f] That is, as long as it comes over purely acid, without any burnt taſte.

Acetum ſcilliticum.
Vinegar of ſquills.

Take Squills, cut into thin ſlices, one pound;
Strongeſt Vinegar, three quarts.

Expoſe them to the ſun in the ſame manner as is directed in the vinegar of roſes; and afterwards preſs out and ſtrain the liquor [g].

Acetum theriacale.
Treacle-vinegar.

Take of Venice, or Edinburgh Treacle, one pound;
Strongeſt Vinegar, two quarts.

Digeſt in a very gentle heat, for three days, and then ſtrain out the vinegar for uſe.

Acetum lithargyrites.
Litharge-vinegar.

Take of the Litharge of gold, four ounces;
Strongeſt Vinegar, a pint.

Digeſt in a ſand-heat, for four days, frequently ſhaking them, then filter the liquor for uſe [h].

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[g] The preparation here directed is not near ſo ſtrong as that in the laſt diſpenſatory, freſh ſquills being now uſed in the ſame quantity that dry ones were ordered formerly: the trouble of drying them anſwered no uſeful purpoſe. Some are accuſtomed to add to this compoſition a ſmall portion of ſpirit of wine, to preſerve it from growing foul; but if the vinegar be good, and the infuſion be carefully decanted from the feces after it has ſtood for ſome time, and kept from the air, it will continue in perfection a long time. See ſome farther remarks on this vinegar in *Pharm. Reform.* p. 123.

[h] This proceſs is beſt performed in leaden veſſels.

SECTION VI.

TINCTURES, ELIXIRS, and MEDICATED WINES.

Tinctura antimonii.
Tincture of antimony.

TAKE Antimony,
Nitre[a], of each two ounces.

Grind them to powder, which gradually inject upon four ounces of Salt of Tartar previouſly fuſed in a crucible with a ſtrong fire. Continue the fuſion for half an hour, then pour out the mixture into a hot and dry iron mortar. Powder the maſs while warm, put it into a heated matras[b], and pour on it a quart of rectified ſpirit of wine. Digeſt them together for eight days in a gentle heat of ſand, and then filtre the tincture[c].

Tinctura antiphthiſica.
Antiphthiſical tincture.

Take Sugar of Lead, an ounce and a half;
Vitriol of Iron, an ounce;

Rectified

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[a] The nitre ſhould be well dried, before it is mixed with the antimony; and both of them made very hot, before they are injected upon the ſalt of tartar.

[b] As the glaſs is very apt to be broke in this proceſs, it may be more convenient to heat the ſpirit of wine in the matras, and pour the hot powder into the ſpirit. But a common glaſs receiver is a fitter veſſel than a matras, for this purpoſe; as the powder may be more eaſily poured immediately into the ſpirit, than it can through the long neck of the other. To prevent the exhalation of any part of the menſtruum, a long pipe made for the purpoſe, (ſee *pract. chem. pl. 2. fig.* 9.) may be luted occaſionally to the mouth of the receiver.

[c] This has been thought by many, to be only a ſlight tincture of hepar ſulphuris: but it has been found to provoke a puke, when taken

Rectified ſpirit of wine, a pint.

Extract a tincture without heat.

Tinctura balſamica.
Balſamic tincture.

Take Balſam of Copaiba, an ounce;
Peru, three drams;
Tolu, two drams;
Benzoine, half a dram;
Engliſh Saffron, a ſcruple;
Rectified ſpirit of wine, a pint.

Digeſt for four days in a ſand-heat; and then ſtrain off the tincture [d].

Tinctura cantharidum.
Tincture of cantharides.

Take of Cantharides, two drams;
Rectified ſpirit of wine, a pint and a half.

Digeſt them in a very gentle heat for two days; then ſtrain off the tincture, and add to it
Balſam of Copaiba, one ounce;
Gum Guaicum, half an ounce;
Cochineal, half a dram.

Digeſt again, in a ſand-heat, for four or five days; and to the tincture, after ſtraining it, add
Camphor, two drams;
Diſtilled oil of Juniper, one dram [e].

Tinctura

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taken on an empty ſtomach, even in a ſmall doſe. It appears therefore to be impregnated with ſome of the finer parts of the regulus of antimony; and probably, if the tincture was drawn with wine, it would prove as emetic as the infuſion of crocus metallorum. The colour of this preparation is certainly owing to the ſulphur, or rather hepar ſulphuris.

[d] This tincture is conſiderably improved, by increaſing the quantity of its three capital ingredients.

[e] The proceſs for making this tincture, is ordered with great ſkill and judgment, though the ingredients are certainly liable to objection. But perhaps it is better to let medicines of this claſs, whoſe

Tinctura caſtorei.

Tincture of caſtor.

Take Ruſſia Caſtor, an ounce and a half;
Rectified ſpirit of wine, a pint.

Digeſt them, in a gentle heat, for four days, and then ſtrain the tincture [f].

Tinctura corticis Peruviani.

Tincture of Peruvian bark.

Take of Peruvian bark, in powder, three ounces;
Virginian Snake-root,

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whoſe virtues have been approved by experience, ſtand unaltered, than for the ſake of reaſons of no great weight, to make ſuch alterations in them, as might make the medicine turn out otherwiſe than expected.

Tincture of cantharides of the *hoſpital pharmacopœia.*——Take of cantharides, half an ounce; rectified ſpirit of wine, three pints. Digeſt them together in a very gentle heat, for two days; then filter the tincture, and digeſt it again in a ſand heat, with the addition of three ounces of balſam of Copaiba, till the balſam is diſſolved: after which, add half an ounce of camphor.

[f] The college have thrown out the ſalt of tartar, which was certainly uſeleſs, if not prejudicial. It has been diſputed, whether a weak is preferable to a rectified ſpirit, and cold maceration to warm digeſtion, for drawing this tincture. To determine this point, the following experiment has been brought: ſome fine Siberia caſtor was infuſed in good French brandy, in the proportion ordered above; after twenty days maceration, the tincture proved very weak: on the ſame individual caſtor (the magma or reſiduum of the former tincture) the ſame quantity of rectified ſpirit was poured, as before of brandy; and after a few hours warm digeſtion, a tincture was obtained much ſtronger than the other. But this experiment does not ſeem concluſive: for the maceration in a weak ſpirit might probably have opened and unlocked the oily texture of the caſtor, by diſſolving its mucilaginous parts, and thus fitted it for the action of a rectified ſpirit. For farther ſatisfaction upon this head, the reader is referred to the experiments related in the note upon caſtor, in page 74.

Gentian, of each two drams;
French Brandy, a quart.

Let them ſteep together for four days, and afterwards filtre the tincture [g].

Tinctura croci.
Tincture of ſaffron.

Take Engliſh Saffron, one ounce;
French Brandy, a pint.

After digeſting them for three days, let the tincture be ſtrained off for uſe [h].

Tinctura cephalica.
Cephalic tincture.

Take Pœony-roots, two ounces;
Roots of Caſmunair,
White Dittany, of each ſix drams;
Wild Valerian,
Miſletoe of the Oak, of each one ounce;
Peacocks dung,
Roſemary-flowers, of each half an ounce;
French white Wine, three quarts.

Digeſt them together for four days, and then filtre the tincture [i].

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[g] This promiſes to be an excellent medicine: the ingredients are few and efficacious: the menſtruum is of a due ſtrength, and its quantity well adjuſted.

[h] The college have juſtly rejected the tincture of ſaffron drawn with wine, as it does not keep long without growing weaker, and depoſiting a ſediment.

[i] This compoſition is extremely ſingular, with regard to the choice of its ingredients. The roots of caſmunair and wild valerian, and the roſemary flowers are indiſputably well choſen. Theſe coincide in one general intention, and ſeem to improve and heighten the taſte, ſmell and virtue of each other. But the pœony roots, white dittany, and miſletoe of the oak, are mere expletives. The peacocks dung is too filthy and ridiculous an article, to deſerve any further notice.

Tinctura cephalica purgans.
Purging cephalic tincture.

This tincture is made by adding to the former,
Sena-leaves, two ounces;
Black Hellebore-roots, one ounce;
French white Wine, a quart.

Tinctura fuliginis.
Tincture of ſoot.

Take of Shining wood Soot, one ounce;
Aſa fœtida, half an ounce;
French Brandy, a pint.
After four days digeſtion, ſtrain the tincture [k].

Tinctura hellebori nigri.
Tincture of black hellebore.

Take of Black Hellebore-roots, four ounces;
Cochineal, half a dram.

Pour on them, previouſly bruiſed, a quart of Spaniſh white Wine, and digeſt, with a very gentle heat, for four days; after which, the tincture is to be filtred for uſe [l].

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[k] *Fuller* (in his *pharmacopœia domeſtica*) has a medicine under the title of *tinctura hyſterica*, like this, only with the addition of half an ounce of myrrh, an ingredient which can be but of little uſe in this tincture: the quantity of the menſtruum likewiſe is double to that here ordered, and the extraction is directed to be performed without heat. Here it is well worth obſerving, that moſt of the tinctures of the ſhops, being uſually made with heat, and with much too ſcanty a portion of the menſtruum, are apt to let fall a conſiderable quantity of what they had at firſt taken up, and thus are continually varying in their ſtrength, an inconvenience which too much care cannot be taken to prevent.

[l] It appears from M. *Boulducs* experiments, that the roots of black hellebore are very little reſinous: wine therefore is a well adapted menſtruum to extract their virtue; but great care ought to be taken not to turn the wine ſour by too long continued digeſtion, or too great a heat.

Tinctura jalappæ.
Tincture of jalap.

On three ounces of Jalap-root, in coarſe powder, pour a pint of Rectified ſpirit of wine, and digeſt them together, in a gentle heat, for eight days; then ſtrain off the tincture [m].

Tinctura jalappæ compoſita.
Compound tincture of jalap.

Take of Jalap-root, ſix drams;
Roots of black Hellebore, three drams;
Juniper-berries,
Shavings of Guaiacum, each half an ounce;
French Brandy, a pint and a half.

Digeſt for three days, and then ſtrain off the tincture.

Tinctura ipecacuanhæ.
Tincture of ipecacuana.

Take of Ipecacuana-root, in powder, one ounce;
Cochineal, one ſcruple;
Spaniſh white Wine, a pint.

After two days digeſtion, let the tincture be filtered for uſe [n].

Tinctura

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[m] This tincture with rectified ſpirit has been for a long time in uſe with us. It is never given alone, but in mixtures of *tinctura ſacra*, ſyrup of buckthorn, &c. which mixtures ſhould not be very liquid, for fear of precipitation. The proper menſtruum for drawing the tincture of jalap, when it is to be taken by itſelf, is weak ſpirit, as the London committee have judiciouſly directed, with the commentators approbation. See *Pharmacop. reform.* p. 221. The college of Edinburgh orders the ſame for the compound tincture: ſuch a menſtruum takes up as much of the ſaline and gummy parts as ſufficiently corrects the griping quality of the reſin.

[n] As this root is not reſinous, wine and water are equally proper menſtruums for extracting its virtues; but the former is preferable

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Tinctura laccæ.

Tincture of gum-lac.

Take of Gum-lac, one ounce;
Myrrh, half an ounce.

Powder, and make them into a ſoft paſte, with a ſufficient quantity of Oil of Tartar per deliquium: exſiccate the maſs with a gentle fire, and add to it a pint and a half of Spirit of Scurvy-graſs. Digeſt the mixture in a ſand-heat, for four days, and then ſtrain off the tincture.

Tinctura martis.

Tincture of ſteel.

Take of Filings of Iron, unprepared, three ounces;
Dulcified ſpirit of Salt, two pounds.

Digeſt them, in a gentle heat of ſand, for three days, and then filtre the tincture °.

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on account of its keeping better. As the cochineal is here added merely for the colour, ſome chooſe to omit it, as finding ſeveral people to be alarmed at the colour of what they threw up, as if it proceeded from blood; and it is, probably for this reaſon, left out in the hoſpital diſpenſatory.

° This tincture of ſteel is improperly ſo called, as it is nothing elſe than a real ſolution of the metal. That menſtruum therefore is the beſt, which being ſafe and innocent, diſſolves, and keeps ſuſpended, the greateſt quantity thereof; for which purpoſe the dulcified ſpirit of ſalt, here ordered, or ſpirit of vinegar, bid faireſt: the dulcified ſpirit of nitre, recommended by ſome authors, diſſolves the metal readily, but does not keep it ſuſpended. As, therefore, tinctures of ſteel differ only in point of ſtrength, it is quite needleſs to burthen the ſhops with more than one: the ſtrongeſt may be brought down to any degree of weakneſs, by dilution. In the laſt edition of the diſpenſatory, two tinctures of ſteel were ordered, one drawn with ſpirit, the other with wine, for different mixtures, to prevent precipitation. But upon examination, that called *Mynſichts*, drawn with wine, was found not to differ in ſtrength from the *vinum chalybeatum:* and the other, with ſpirit, comes far ſhort of this made with dulcified ſpirit of ſalt.

Tinctura menthæ.
Tincture of mint.

Take of Mint-water, a pint;
Mint-leaves, dried, an ounce.

Let them ſteep, in a cloſe ſtopt vial, ſet in a warm place, for four hours, and then ſtrain the tincture.

Tinctura myrrhæ.
Tincture of myrrh.

Take an ounce and a half of Myrrh in powder; and make it into a ſoft paſte, with a ſufficient quantity of Oil of Tartar per deliquium; exſiccate the maſs with a gentle fire; pour on it a pint of Rectified ſpirit of wine, and digeſt the mixture in a ſand-heat for ſix days, when the tincture is to be ſtrained off for uſe [p].

Tinctura

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[p] *Boerhaave* and the compilers of this diſpenſatory are of opinion, that no good tincture can be drawn from myrrh by ſpirit of wine, without the aſſiſtance of lixivial ſalts. But as ſeveral experiments have lately been brought to ſupport the contrary opinion, an exact account of the whole diſpute may perhaps ſettle this point to the readers ſatisfaction.

The gentlemen appointed to reform the London *pharmacopœia* obſerve, that myrrh, boiled in water, diſſolves freely, and keeps almoſt entirely ſuſpended while boiling hot; and that only one third, or leſs, ſubſides upon the decoctions growing cold; that the ſolution being ſtrained and evaporated, leaves a gum diſſolvible again in water, but not in ſpirit; that ſpirit will take up a great part of what precipitates from the decoction, the reſt ſeeming to be dregs. They obſerve likewiſe, that ſalt of tartar does not enable ſpirit to diſſolve more of the myrrh than this reſinous part. A quantity of myrrh, firſt powdered, being divided into two equal parts, one reſerved by itſelf, and the other macerated with ſalt of tartar for more than half a year, were both ſet in the ſame heat with equal quantities of ſpirit; each of theſe tinctures, being evaporated, were found to contain equal quantities of reſin. But it has been objected that another kind of management

Tinctura myrrhæ & aloes.
Tincture of myrrh and aloes.

Take of Myrrh, in powder, two ounces;
Rectified ſpirit of wine, a quart.

Digeſt them in a ſand-heat, for eight days, and then add an ounce of Hepatic Aloes, in powder. Continue the digeſtion for two days longer; after which let the tincture be ſtrained off [q].

ment of the myrrh and ſalt of tartar, than that obſerved in the above experiment, is directed by *Boerhaave*, and the *Edinburgh pharmacopœia*; and that the ſucceſs of the proceſs depends upon the evaporation of the ſuperfluous humidity, a circumſtance neglected in the above experiment. Nevertheleſs, tincture of myrrh, prepared exactly according to *Boerhaave*'s directions, appears of a more dilute milky colour, upon the addition of water, than a tincture made with alcohol and myrrh alone. It ſhould ſeem likewiſe, that by the repeated evaporation, which *Boerhaave* orders, ſome of the fine oil, which myrrh yields upon diſtillation with water, ſhould be diſſipated; and it is for this reaſon, that the evaporation is here ordered to be performed but once.

What perhaps has given occaſion to the uſe of alkaline ſalts in theſe preparations is the fallacious, though common, method of judging of the ſtrength of tinctures from the deepneſs of their colour. It is certain from many obſervations, that alkaline ſalts contribute greatly to promote this; and it is equally certain from the experiment above, that they do not promote the ſolution of the myrrh, ſince no more appears taken up in the deeper coloured tincture than in the paler.——Upon the whole, if the aromatic reſinous part of myrrh be wanted, a highly rectified ſpirit is the proper menſtruum: and if ſome of the gummy, as well as the reſinous parts, be required in the ſame tincture, a proof ſpirit is ſufficiently able to extract them both, without the aſſiſtance of alkaline ſalts, as indeed ſucceeded with me upon trial.

[q] The fixed ſalt is here left out, as being improper for chirurgical dreſſings, for which this tincture is deſigned: and for this reaſon, the myrrh is ordered in double the quantity of the aloes.

Tinctura opii, ſeu laudanum liquidum.
Tincture of opium, or liquid laudanum.

Take of Opium, unprepared, two ounces;
English Saffron, one ounce;
Canary Wine,
French Brandy, each ten ounces.

In a gentle heat of ſand extract a tincture; which is afterwards to be ſtrained [r].

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[r] It is ſurpriſing, that none of the pharmaceutical writers take any notice of the defects of *Sydenhams* liquid laudanum; yet it is certain, that after it has been kept for ſome time, about one fourth part of the opium contained in it is loſt in a groſs ſediment. This loſs is attended with great inconvenience; for during the precipitation, the laudanum is growing always weaker, ſo that newly prepared laudanum is, perhaps, a fourth part ſtronger than the ſame laudanum, when it has ſtood for any time. To remedy this, brandy has been employed in ſome ſhops inſtead of wine; but the laudanum, thus prepared, loſes much the ſame proportion of opium, in time, as the other, which forms in a cruſt towards its ſurface all round the glaſs. By mixing wine and brandy in equal parts, as here directed, both inconveniencies are prevented, the tincture parting with ſo little opium either way, as to keep always an equal ſtrength: it would however be convenient to increaſe the quantity of the menſtruum, that the doſe might be more eaſily aſcertained, according to the obſervation in *Pharm. reform.* p. 121. The college have very juſtly thrown out the trifling quantity of the two ſpices, which could have no other effect than to abſorb ſome of the ſcanty menſtruum.——Several tinctures of opium may be ſeen in *Pract. Chem.* (p. 342, *&* *ſeq*) one in particular, (p. 345.) not liable to the objections uſually formed againſt moſt of the preparations of this kind, with regard to the uncertainty of the doſe; for in that, it is ſo contrived as to be determined by weight.——The *hoſpital diſpenſatory* has rejected the ſaffron from this tincture: it certainly anſwers no manner of purpoſe, and makes the medicine more unpleaſant, and apt to let fall ſome of the opium.

Elixir pectorale.
Pectoral elixir.

Take of Balſam of Tolu, two ounces;
Benzoine, an ounce and a half;
Engliſh Saffron, half an ounce;
Rectified ſpirit of wine, a quart.

Digeſt them, in a ſand-heat, for four days, and then ſtrain off the tincture [f].

Elixir polychreſtum.
Elixir of many virtues.

Take of Gum Guaiacum, ſix ounces;
Balſam of Peru, half an ounce;
Rectified ſpirit of wine, a quart.

Digeſt them, in a ſand-heat, for four days, ſtrain out the tincture, and add to it two drams of diſtilled Oil of Saſſafras [s].

Elixir proprietatis.
Elixir of property.

Take of Myrrh, in powder, two ounces. Make it into

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[f] This elixir is reduced to a great degree of elegance and ſimplicity. The ſtorax in the former compoſition, now rejected, was a ſupernumerary article; and ſo ſmall a quantity of myrrh as three drams, could afford but little virtue to twenty ounces of menſtruum, eſpecially as not above one fourth, or one fifth part of it, is ſoluble in a rectified ſpirit. The long continued digeſtion, which was ſuppoſed neceſſary when myrrh was one of the ingredients, is now prudently reduced to half the time, and even leſs than this would ſuffice. It would, perhaps, be more convenient to extract a tincture firſt from the ſaffron by itſelf, and then to add the two other ingredients, which being almoſt reſin would quickly diſſolve in the menſtruum here directed, if the veſſel was now and then ſhaken.

[s] In the laſt edition of this diſpenſatory, the quantity of the gum was by much too ſmall; but it is here increaſed to double. The addition of oil of ſaſſafras makes this pretty much ſuch a medicine, as that called in the foreign pharmacopœias *eſſentia lignorum*.

into a ſoft paſte, with a ſufficient quantity of Oil of Tartar per deliquium. Exſiccate the maſs with a gentle heat; pour on it a quart of Rectified ſpirit of wine [t], and digeſt in a ſand-heat, for the ſpace of four days; then add an ounce and a half of Succotrine Aloes, in powder, and an ounce of Engliſh Saffron; continue the digeſtion for two days longer, and then having ſuffered the feces to ſubſide, pour off the clear elixir.

Elixir proprietatis cum acido.

Acid elixir of property.

Take of Myrrh, in powder, an ounce and a half;
Succotrine Aloes, in powder, an ounce;
Engliſh Saffron, half an ounce;
Rectified ſpirit of wine, twenty-four ounces;
Dulcified ſpirit of Vitriol, ſix ounces.

Digeſt them, in a ſand-heat, for the ſpace of four days; and having then ſuffered the feces to ſubſide, pour off the clear elixir [u].

Tinctura rhabarbari.

Tincture of rhubarb.

Take of Rhubarb, cut and bruiſed, one ounce;
Vitriolated Tartar, half a dram;
Cochineal, one ſcruple;
Cinnamon-water without ſpirit, a pint.

Digeſt them for a night, in a warm place, and then ſtrain out the tincture for uſe.

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[t] A tincture of myrrh made with a lower ſpirit than that here directed, is, I preſume, preferable to one made with a high rectified ſpirit, for reaſons already alledged in the note on the article *myrrh*, in page 45, and on *tinctura myrrhæ*, page 134.

[u] This was ordered, in the laſt edition, to be made with ſpirit of ſulphur: but upon adding this acid, as directed, it occaſioned a copious precipitation, to the great detriment of the elixir, which is prevented by the alteration here made. The ſal ammoniac is juſtly rejected as uſeleſs.

Tinctura rhei amara.
Bitter tincture of rhubarb.

Take of Rhubarb, one ounce;
Gentian root, a dram and a half.
Virginian Snake-root, a dram;
Cochineal, a ſcruple;
French Brandy, a pint.

Digeſt for two days, and then ſtrain the tincture.

This tincture may be likewiſe made with Spaniſh white wine [w].

Tinctura rhei dulcis.
Sweet tincture of rhubarb.

Take Choice Rhubarb,
Liquorice ſliced, of each two ounces;
Raiſins of the ſun, ſtoned, one ounce;
Canella alba,
Leſſer Cardamoms, of each two drams;
French Brandy, a quart.

Digeſt for two days, and then, having ſtrained out the tincture, add to it three ounces of white Sugar candy in powder, and digeſt again till the ſugar is diſſolved [x].

Tinctura roſarum.
Tincture of roſes.

Take Red Roſes cleared of the white heels, one ounce;
Spirit of Vitriol, one dram;
Boiling Water, two quarts.

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[w] The compilers of the *hoſpital pharmacopœia*, have thought proper to throw out the cochineal from this compoſition.

[x] This tincture is taken from *Bates*; but the ſubſtituting canella alba and cardamoms to the aniſeeds ordered by that author, greatly improves the medicine, particularly in point of taſte. As the liquorice and raiſins are of no other uſe than to ſweeten, and as they muſt abſorb a great deal of the menſtruum, they might be thrown out, and the quantity of ſugar doubled.

Infuſe them together for four hours; then filtre the tincture, and add to it four ounces of white Sugar [y].

Tinctura ſacra.
The ſacred tincture.

Take Succotrine Aloes, in powder, one ounce;
Leſſer Cardamom-ſeeds,
Virginian Snake-root, of each a dram;
Cochineal, a ſcruple;
Spaniſh white Wine, a pint and a half.

Digeſt in a very gentle heat for two days, and then ſtrain off the tincture [z].

Elixir ſacrum.
The ſacred elixir.

Take Succotrine Aloes in powder,
Choice Rhubarb, cut ſmall,

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[y] The compilers of this *pharmacopœia* have all along directed the acid liquor to be weighed, not meaſured by drops. This alteration has alſo been received by the committee of the college of London, who have likewiſe judiciouſly ordered the oil of vitriol to be mixed with the water, before the roſes are put in; for the undiluted ſpirit will burn and deſtroy the texture of ſuch of the roſes as it falls upon. If a common glazed earthen veſſel be employed, the acid will corrode the glazing; therefore a glaſs, or ſtone-ware one (as it is called) ſhould be choſen for this purpoſe.

[z] This celebrated medicine, as now reformed, has a juſt title to elegancy and ſimplicity, and due regard has been paid to the intention in which it is generally preſcribed. The galangal and zedoary, two uſeleſs ingredients in the tinctura ſacra of the former editions, are now judiciouſly dropt. The ſnake-root, which is introduced inſtead of aſarum, is a warm root, of very ſubtile and penetrating parts, by which the action of this medicine is extended to further purpoſes, than thoſe of a ſimple purgative. See *Pharm. reform.* p. 158.

Tinctura ſacra of the *hoſpital pharmacopœia.*——Take of ſuccotrine aloes, two ounces; canella alba and ginger, each two drams; French brandy, three pints. Digeſt for two days, and then ſtrain the tincture.

Bay-berries bruiſed, of each an ounce;
French Brandy, a quart.

Digeſt for two days, and then ſtrain the elixir.

Elixir ſalutis.
Elixir of health.

Take Sena leaves, two ounces;
Choice Rhubarb [a],
Sweet Fennel-ſeeds,
Juniper-berries,
Shavings of Guaiacum wood, of each one ounce;
French Brandy, three pints.

Digeſt for the ſpace of four days, and then to the liquor ſtrained add four ounces of white Sugar candy, in powder [b].

Tinctura ſalutifera.
Tincture of health.

Take Angelica-roots,
Calamus aromaticus,
Galangal,
Gentian-root,
Zedoary,
Bay-berries,
Leſſer Cardamom ſeeds,
Cinnamon,

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[a] In the hoſpital diſpenſatory, jalap is put in the place of rhubarb.

[b] This medicine is much improved, as to its purgative virtues, by the addition of rhubarb, and in point of taſte, by throwing out ſome unneceſſary ingredients, and introducing ſuch as are more grateful: but, poſſibly, this medicine might be ſtill further improved, in both theſe reſpects, by entirely throwing out the rhubarb, and increaſing the quantity of ſena. The guaiacum is deſervedly retained; as it is found to have very good effects, when joined with purgatives. Two drams of ſena, infuſed in half a pound of decoction of guaiacum, work as briſkly, and more eaſily than three drams infuſed in plain water.

Long-

Long Pepper, of each one dram;
French Brandy, a quart.

Let them ſteep together for three days, and then filtre the tincture [c].

Tinctura ſerpentariæ compoſita.
Compound tincture of ſnake-root.

Take of Virginian Snake-root, two ounces;
Theriaca, one ounce;
Cochineal, a dram;
Spaniſh white Wine, a quart.

Digeſt them in a gentle heat for four days, and then ſtrain off the tincture.

Tinctura ad ſtomachicos.
Stomachic tincture.

Take Roots of Calamus aromaticus,
Galangal,
Gentian,
Zedoary,
Orange-peel,
Peruvian bark, of each two ounces;
Tops of Wormwood,
Leſſer Centaury,
Camomile flowers,
Seeds of Carduus benedictus, of each one ounce;
Filings of Iron, unprepared, tied up in a bag, ſix ounces;
French white Wine, two gallons.

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[c] This compoſition has eſcaped, unaltered, through the ſeveral editions of the pharmacopœia: but nevertheleſs the ingredients are too numerous; and ſeveral of them might be left out, to the real advantage of the medicine; ſuch are the calamus aromaticus, galangal, gentian and bay-berries: ſome of theſe render it too nauſeous, for the purpoſes it ſeems intended.

Digeſt for the ſpace of four days, and then filtre the tincture [d].

This tincture may likewiſe be made without iron.

Elixir ſtomachicum.

Stomachic elixir.

Take Gentian-root,
Outward part of freſh Orange-peel, of each two ounces;
Cochineal, half a dram;
French Brandy, a quart.

Let them ſteep for three days, and then filtre the elixir.

Tinctura ſuccini.

Tincture of amber.

To two ounces of yellow Amber, in powder, add a ſufficient quantity of Oil of Tartar per deliquium to make it into a paſte; gently exſiccate the maſs, and pour on it twenty ounces of Rectified ſpirit of wine. Digeſt the mixture in a ſand-heat for eight days, and then filtre the tincture for uſe.

Tinctura ſudorifica.

Sudorific tincture.

Take of Virginian Snake-root, five drams;
Cochineal, half an ounce;
Ruſſia Caſtor, one dram;
Engliſh Saffron, two ſcruples;
Opium, one ſcruple;
Spirit of Mindererus, a pint.

Digeſt them for three days in a gentle heat, and then ſtrain off the tincture [e].

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[d] This is a preſcription of the late famous Dr. *Pitcairn.* Though none of the materials are improper, yet the exuberancy of the compoſition might have been reduced, without any loſs to its virtues. The galangal, zedoary, wormwood and carduus ſeeds, may very well be ſpared.

[e] This ſeems to promiſe fair to be a moſt excellent medicine; and

Tinctura Tolutana.

Tincture of balſam of Tolu.

Take Balſam of Tolu, an ounce and a half;
Rectified Spirit of wine, a pint.

Digeſt in a ſand-heat, till the balſam is diſſolved, and then let the tincture be ſtrained out for uſe.

Elixir vitrioli.

Elixir of vitriol.

Into two pounds of dulcified Spirit of Vitriol, gradually drop of
Diſtilled Oil of Mint, half an ounce;
Lemon-peel,
Nutmegs, each two drams.

Mix the whole well together[f].

Vinum chalybeatum.

Steel wine.

Take Filings of Iron, unprepared, three ounces;
Cochineal, half a dram;
Rheniſh white Wine, a quart.

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and although the virtues of cochineal and caſtor ſhould be diſputed, yet the ſnake-root, ſaffron and opium are of the moſt powerful kind; the menſtruum is ſuch as will not only extract thoſe parts of the ingredients, in which their virtue conſiſts, but at the ſame time, is capable of greatly promoting the efficacy of the whole.

[f] This formula has undergone ſo great a change, as to become a medicine of a quite different claſs from that uſually intended under the appellation of *elixir vitrioli*; for in this, there is no perceptible acid, if the *ſpiritus vitrioli dulcis* be made as it ought to be; and if otherwiſe, it will not diſſolve the eſſential oils, as here ſuppoſed. 'Tis extremely probable, that the contrivers of this alteration intended by it to avoid the inconveniencies, which the common elixirs of vitriol are ſubject to, ſuch as the precipitation of ſuch parts of the aromatics, as the ſpirit has at firſt extracted. In the form it now bears, it is an agreeable and powerful medicine; and may be made to anſwer the intentions of the acid elixir of vitriol, by occaſionally adding a few drops of the acid ſpirit.

Digeſt in a ſand-heat for ten days, and then filtre the wine for uſe[g].

Vinum emeticum.

Emetic wine.

Put an ounce of Crocus Metallorum into a pint of Spaniſh white Wine: ſtir them well together; then let the mixture ſtand till it has perfectly ſettled, and carefully pour off the wine.

Vinum millepedatum.

Wine with millepedes.

Upon two ounces of live Millepedes, bruiſed, pour a pint of Rheniſh white Wine. Infuſe them together for a night, and afterwards preſs and ſtrain out the liquor.

Spiritus vini camphoratus.

Camphorated ſpirit of wine.

Diſſolve an ounce of Camphor in a pint of Rectified ſpirit of wine.

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[g] The college follow *Boerhaave*'s way of making this wine. The Rheniſh is an excellent menſtruum with regard to ſteel, and takes up a conſiderable quantity of it. The committee of the college of phyſicians of London, prefer this wine to the Mountain formerly ordered in their book, and accordingly have inſerted it in the plan. The form, which theſe gentlemen have given, differs conſiderably from this, and is as follows.——Take filings of iron, four ounces; cinnamon, mace, of each half an ounce: ſteep them for a month in two quarts of Rheniſh wine, frequently ſhaking the mixture, which is afterwards to be ſtrained.

GENERAL RULES *for extracting* TINCTURES.

I. The vegetable ſubſtances ought to be moderately and newly dried, unleſs they are expreſsly ordered otherwiſe. They ought likewiſe to be cut and bruiſed, before the menſtruum is poured on them.

II. If the digeſtion is performed in balneo, the whole ſucceſs depends upon a proper management of the heat, which ought to be all along gentle, unleſs the hard texture of the ſubject ſhould require it to be augmented; in which caſe, the heat may be increaſed ſo as to make the menſtruum boil a little, towards the end of the proceſs.

III. Very large circulatory veſſels ought be employed for this purpoſe; which ſhould be heated, before they are luted together.

IV. The veſſel is to be frequently ſhaken during the digeſtion.

V. All tinctures ſhould be ſuffered to ſettle, before they are committed either to the filtre or ſtrainer.

VI. In the tinctures (and diſtilled ſpirits likewiſe) deſigned for internal uſe, no other ſpirit (drawn from malt, melaſſes, or other fermented matters) is to be uſed, than that expreſly preſcribed.

SECTION VII.

DECOCTIONS, &c.

Decoctum album.
The white decoction.

TAKE of Calcined Hartſhorn, *(finely levigated)* one ounce;
Water, three pints.
Boil to two pints; then add to the decoction unſtrained,
Of Cinnamon-water, made without ſpirit, one ounce;
White Sugar, two drams.
Mix them together [a].

Decoctum album compoſitum.
The compound white decoction.

Take of Calcined Hartſhorn, ſix drams;
Crabs eyes, three drams;
Roots of the greater Comfrey,
Tormentil, each two drams;
Water, three pints.
Boil till there remains a quart of liquor after ſtraining; to which, while turbid, add

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[a] There ſeems to be no neceſſity of boiling the water at all, unleſs it be to preſerve the old name to this medicine. Calcined hartſhorn contains nothing in it ſoluble by ſuch treatment, nor is the water enabled thereby to ſupport any more of the calx than cold water will take up. Some are accuſtomed to add a ſmall proportion of gum Arabic, to enable the liquor to keep more of the powder ſuſpended; but perhaps a little ſtarch would be a more eligible ingredient for this purpoſe.

Of Cinnamon-water, made without ſpirit, one ounce;
Syrup of Meconium, half an ounce.
Mix them all well together [b].

Decoctum commune pro clyſtere.
The common decoction for glyſters.

Take Leaves of Mallows,
Mercury,
Camomile-flowers, of each half an ounce;
Fennel-ſeed,
Linſeed, of each two drams;
Water, a pint and a half.

Boil them together to the conſumption of one third of the liquor, then ſtrain off the decoction [c].

Decoctum diaſcordii.
Decoction of diaſcordium.

Take of Diaſcordium, one ounce;
Japan earth, two drams;
Water, a pint and a half.

Let them be boiled together till only a pint of liquor remains after ſtraining; to which, while turbid, add an ounce of Cinnamon-water made with ſpirit, and the ſame quantity of Syrup of Meconium. Mix them together.

Decoctum emolliens pro fotu.
Emollient decoction for fomentations.

Take of Mallow-leaves, one ounce;
Camomile-flowers,
Melilot-flowers,

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[b] This is an extremely well contrived compoſition for the purpoſes it is deſigned. The decoction of the roots is ſo tenacious as to ſupport a large quantity of the powders, to which the ſyrup conſiderably contributes.

[c] The camomile-flowers and fennel-ſeed ſhould be added towards the end of the decoction, to prevent their volatile parts from flying away.

Elder-flowers, each half an ounce;
Fœnugreek-ſeed, one ounce.

Boil them in two quarts of Water.

This decoction may likewiſe be prepared without the Fœnugreek-ſeed.

Decoctum ad ictericos.
Icterical decoction.

Take Roots and leaves of the greater Celandine,
of Turmeric,
Madder, of each one ounce;
Water, three pints.

Boil them till only a quart of liquor remains after ſtraining; to which, when grown cold, add the juice of two hundred Millepedes, and two ounces of the Syrup of the five roots; then mix them all together [d].

Decoctum lignorum.
Decoction of the woods.

Take Shavings of Guaiacum-wood, three ounces;
Stoned Raiſins of the ſun, two ounces;
Water, a gallon.

Let them boil over a gentle fire, to the conſumption of one half, adding, towards the end of the decoction, an ounce of ſhavings of Saſſafras-wood, and half an ounce of ſliced Liquorice. Strain out the liquor, and having ſuffered it to reſt for ſome time, pour off the clear from the feces [e].

Decoctum

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[d] The ingredients of which this decoction is compoſed, have been long held by many, as ſpecifics for the cure of the diſeaſe expreſſed in the title. The medicine is extremely unpleaſant; but ſeems well calculated to anſwer many uſeful purpoſes, if well managed, and properly aſſiſted.

[e] This decoction is well contrived, unleſs the raiſins, which are perhaps an exceptionable article, be objected to. Great part of the virtue of the ſaſſafras-wood depends upon its eſſential oil. This ingredient therefore is prudently ordered not to be put in till towards the

Decoctum ad nephriticos.
Nephritic decoction.

Take Marſhmallow-roots,
Liquorice,
Roots of Reſt-harrow, of each half an ounce;
Linſeed,
Seeds of wild Carrot, each three drams;
Pellitory of the wall, one ounce;
Four fat Figs;
Stoned Raiſins of the ſun, two ounces;
Water, three quarts.

Boil them till there remains only two quarts of liquor after ſtraining.

Decoctum nitroſum.
Nitrous decoction.

Take of Pureſt Nitre, half an ounce;
White Sugar, two ounces;
Cochineal, a ſcruple;
Water, two pints and a half.

Boil to a quart; then ſuffer the whole to reſt for ſome time, and pour off the clear decoction[f].

Decoctum pectorale.
The pectoral decoction.

Take Stoned Raiſins of the ſun,
Barley, of each an ounce;

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the end of the coction, to prevent the avolation of its moſt valuable part. The contrivers of this formula have given another inſtance of their ſkill in pharmaceutical chemiſtry, by directing the guaiacum wood to be boiled for a time ſuitable to its compactneſs and tenacity, while liquorice-root, which ſtands not in need of ſuch treatment, but wou'd be rather injured by it, and render the compoſition ſlimy, is ordered to be put in with the ſaſſafras.

[f] This is an elegant way of diſguiſing nitre, and making it agreeable to the patient, both which intentions are fully anſwered by the ſugar and cochineal, for which purpoſe alone they ſeem to be inſerted.

Four fat Figs;
Water, three quarts.

Boil them till two quarts of liquor remain, adding, towards the end of the coction,

Florentine Orrice-root,
Liquorice, of each half an ounce;
Leaves of Harts-tongue,
Flowers of Coltsfoot, of each one ounce.

Strain out the decoction for uſe [g].

Decoctum ſerpentariæ compoſitum.
Compound decoction of ſnake-root.

Take of Virginian Snake-root ſix drams;
Water, a quart.

Boil to the conſumption of one half, adding towards the end of the coction, half an ounce of Venice Treacle, and a ſcruple of Cochineal. Strain the decoction off thick, and mix with it an ounce and a half of the ſyrup of Meconium.

This decoction is only to be made in defect of the tincture.

Decoctum tamarindorum cum ſena.
Decoction of tamarinds with ſena.

Take of Tamarinds, ſix drams;
Cryſtals of Tartar, two drams;
Water, a pint and a half.

Boil them together in an earthen veſſel, till there remains a pint of liquor when ſtrained; in which, while hot, infuſe a dram of Sena-leaves, for the ſpace of a night. Afterwards ſtrain off the liquor, and add to it an ounce of ſyrup of Violets.

This decoction may be alſo prepared with a double, triple, &c. quantity of Sena.

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[g] This decoction is made more pleaſant and ſimple than the old one, by the rejection of the moſt exceptionable ingredients, without at all impairing any of its medicinal virtues.

Infuſum amarum.
Bitter infuſion.

Take of Gentian-root, half a dram;
Tops of the leſſer Centaury, one dram;
Boiling Water, four ounces.

Infuſe them for four hours, and then filtre the liquor for uſe [h].

Infuſum amarum cum ſena.
Bitter infuſion with ſena.

Add to the former infuſion, a dram of Sena, and half a dram of ſweet Fennel-ſeeds.

This infuſion likewiſe may be prepared with a double, triple, &c. quantity of Sena.

Infuſi ſenæ unciæ quatuor.
A four-ounce infuſion of ſena.

Take of Sena, three drams;
Leaves of the greater water Figwort, two drams;
Vitriolated Tartar,
Ginger, each ten grains;
Boiling Water, four ounces.

Infuſe them for four hours, and then ſtrain off the liquor for uſe [i].

Emulſio communis.
The common emulſion.

Take of the four greater cold Seeds, one ounce;
Sweet Almonds blanched, half an ounce.

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[h] This infuſion is reduced to a very great degree of elegancy and ſimplicity. The camomile-flowers and carduus benedictus were exceptionable ingredients, and therefore are judiciouſly thrown out. In ſhort, there ſeems to be no room for any further amendment of this medicine.

[i] A neutral ſalt is introduced in this compoſition, inſtead of the alkaline one formerly directed. This makes the infuſion more agreeable and not leſs efficacious.

Beat them well in a marble mortar, and gradually pour on them a quart of Water, working the whole well together. Then ſtrain off the liquor, and add to it an ounce of Cinnamon-water made without ſpirit, and two drams of white Sugar [k].

Emulſio Arabica.
The Arabic emulſion.

This emulſion is made after the ſame manner as the former; only in this a dram of bruiſed gum Arabic is to be previouſly boiled in the Water till perfectly diſſolved [l].

GENERAL RULES *for making* DECOCTIONS.

I. The firſt rule above laid down for the extracting of tinctures, is likewiſe to be obſerved in the making of decoctions.

II. Woods, Roots, Seeds, and all thoſe ingredients which are dry and of a compact texture, are to be put in firſt; and the others added towards the end of the boiling. Among the latter, liquorice is to be reckoned.

III. All decoctions are to be ſtrained, and after reſting for ſome time, poured off from the feces, unleſs they are expreſsly ordered to be turbid; and even in this caſe they ought to be paſſed through a coarſe ſtrainer.

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[k] Great care ſhould be taken, that neither the ſeeds nor the almonds are become rancid by keeping, which will not only render the emulſion extremely unpleaſant, a circumſtance of great conſequence in a medicine which requires to be taken in large quantities, but likewiſe give it ſome injurious qualities little expected from preparations of this claſs.

[l] *Milk of gum ammoniacum.*

Diſſolve an ounce and a half of gum ammoniacum in a quart of hyſſop-water. *Pharmacop. Pauper.*

SECTION VIII.

SYRUPS.

Syrupus de althæa.
Syrup of marſhmallows.

TAKE of Marſhmallow-roots, three ounces;
Eryngo-roots, one ounce;
Liquorice, half an ounce;
True (or Engliſh) Maiden-hair,
Pellitory of the wall, each one ounce;
Water, three quarts.

Boil to the conſumption of one third part of the liquor; then ſtrain out the remaining decoction, and ſuffer it to reſt for ſome time. The clear liquor being poured off from the feces, is to be boiled, with four pounds of white Sugar, over a gentle fire, and kept continually ſtirring, till it becomes a ſyrup[a].

[a] This ſyrup ſeems to be a ſort of favourite among the diſpenſatory writers, who have taken great pains to alter and mend it, but have been wonderfully tender in lopping off any of its articles. (See *Pharm. reform.* p. 127.) The formula above conſiſts of five leſs than that in the former editions of this book, and one of the old ones is exchanged for a much more ſuitable ingredient, eryngo root. If we might be allowed to lop off the two laſt, the ſyrup might paſs for one that is ſufficiently and uſefully reformed.

The following alteration has been lately made by the compilers of the *hoſpital diſpenſatory*: Take marſhmallow-root, three ounces; liquorice, one ounce; Engliſh maiden-hair, two ounces; water, three quarts; white ſugar, four pounds. Make them into a ſyrup, according to the directions above.

Syrupus e cortice aurantiorum.
Syrup of orange-peel.

Infuſe ſix ounces of the outward part of freſh Orange-peel in three pints of boiling Water, for the ſpace of a night, in a cloſe ſtopped veſſel. Let the liquor, after ſtraining, be ſuffered to reſt for ſome time; when it is to be poured from the feces, and with twice its weight of white Sugar made into a ſyrup, without boiling.

Syrupus e ſucco aurantiorum.
Syrup of orange-juice.

Take of Orange-juice depurated, one pound;
White Sugar, two pounds.

Make them into a ſyrup, without boiling, according to art.

Syrupus balſamicus.
Balſamic ſyrup.

Take a quart of the Syrup of Sugar, juſt made, and warm from the fire. When it has grown almoſt cold, ſtir into it, by little and little, an ounce of the Tincture of balſam of Tolu, ſhaking them well together, till they are perfectly united. Let the mixture be kept in the heat of a water-bath, till the ſpirit is exhaled[b].

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[b] The college firſt took up this manner of making the balſamic ſyrup with the tincture, in the ſecond edition of their *pharmacopœia*, in the year 1722. It was dropt in the laſt edition, on a complaint that the ſpirit ſpoiled the taſte of the ſyrup, which it did in an eminent degree, when the tincture was made with malt ſpirits; particular care therefore ſhould be taken that the ſpirit employed for this tincture be perfectly clean, and well rectified from its phlegm. The preparation, as now directed, ſeems to be quite unexceptionable, as a greater proportion of the balſam is kept ſuſpended in the ſyrup, than can be effected by any other method, and the taſte preſerved by the evaporation of the ſpirit: To which may be added, that this is the moſt frugal way of managing an article almoſt always too dear for the purpoſes of a common ſyrup.

Syrupus caryophyllorum.
Syrup of clove-july-flowers.

Take of Clove-july-flowers, freſh gathered, and
picked from the heels, one pound;
Boiling Water, three pints,

Let them ſteep together for a night; then ſtrain off the liquor, and with twice its weight of white Sugar, make it into a ſyrup, according to art, without boiling.

Syrupus kermeſinus.
Syrup of kermes.

Take a pound of the juice of Kermes grains, and two pounds of white Sugar. Make them into a ſyrup without heat.

The ſyrup of Kermes, which is brought to us, ready made, from the ſouthern parts of France, is to be preferred, eſpecially if it has been prepared without heat.

Syrupus e ſucco limonum.
Syrup of lemon-juice.

This ſyrup is made of the juice of Lemons, in the ſame manner as that of the juice of oranges.

Syrupus papaveris albi, ſeu de meconio, vulgo diacodiôn.
Syrup of white poppies, or of meconium, commonly called diacodium.

Take of the heads of white Poppies juſt ripe, (but before they are fully ſo) and moderately dried, fourteen ounces; boiling Water, a gallon. Let them ſteep together for a night, and then boil them, till half of the liquor is waſted; ſtrain and ſtrongly preſs out the remainder, and boil it, with the addition of four pounds of white Sugar, to the conſiſtence of a ſyrup[c].

Syrupus

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[c] Notwithſtanding the pains which ſeveral writers have beſtowed upon this favourite ſyrup, it ſtill remains liable to ſeveral objections; for if it be regarded as an opiate, it will be ſubject to great variations in point of ſtrength. The difference of ſeaſons will make the poppy heads

Syrupus papaveris rhæados.
Syrup of wild poppies.

Take freſh Flowers of wild Poppies, one pound;
Boiling Water, three pints.

Steep the flowers in the water for a night; then ſtrain off the liquor, and, adding two pounds of white Sugar, boil it into a ſyrup [e].

Syrupus pectoralis.
Pectoral ſyrup.

Take Roots of Florentine Orrice,
Elecampane, of each an ounce and a half;
Liquorice, two ounces;
Flowers of Coltsfoot,
True (or in its ſtead, Engliſh) Maiden-hair,
Leaves of Ground-ivy, of each an ounce,
Twelve fat figs;
Water, a gallon.

Boil to the conſumption of a fourth part; ſtrain out the liquor which remains; add to it ſix pounds of white Sugar; and boil them into a ſyrup [d].

Syrupus

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heads more or leſs ſtrong, ſo that the ſame weight of heads ſhall not yield at all times the ſame quantity of extract. Other circumſtances likewiſe will occaſion the ſame alteration. If therefore a ſyrup of this kind be really wanted in the ſhops, it may be more ſcientifically compoſed of the extract of opium and ſyrup of ſugar, as is obſerved in *Pharmacop. reformat.* p. 133.

[d] This ſyrup is much leſs compounded than formerly; ſix of its moſt exceptionable ingredients are lopt off, and the proportions of thoſe which remain better adjuſted to each other. Nevertheleſs its ingredients are ſtill too numerous and diſcordant.

[e] This ſyrup was in former editions ordered to be made with double the quantity of flowers, and two pints only of water, in order, I ſuppoſe, to impregnate the ſyrup as much as poſſible with the virtue of the flowers. But the learned reformers of this diſpenſatory have rejected continuing this unneceſſary trouble and expence; probably from

Syrupus pœoniæ.

Syrup of pœony.

This ſyrup is made of the infuſion of freſh-gathered Pœony-flowers, in the ſame manner as that of wild poppies.

Syrupus quinque radicum.

Syrup of the five roots.

Take two ounces of each of the five opening Roots; and three quarts of Water. Boil them together till one third of the liquor is waſted; then ſtrain and preſs out the remainder, and diſſolving in it four pounds of white Sugar, boil them into a ſyrup.

Syrupus roſarum pallidarum.

Syrup of pale roſes.

This is made of a double infuſion of freſh-gathered pale Roſes, in the ſame manner as the ſyrup of wild poppies.

Syrupus e roſis ſiccis.

Syrup of dry roſes.

Infuſe half a pound of red Roſes in two quarts of boiling Water, for the ſpace of a night; then let them boil a little; ſtrain out the liquor; add to it four pounds of white Sugar, and boil the mixture into a ſyrup.

from a full perſuaſion, that no ſtreſs whatever is to be laid upon theſe kinds of preparations; and that the great difficulty, if not impoſſibility, of rendering ſyrups nearly of one ſtandard ſtrength, together with the alterations they muſt neceſſarily undergo in keeping, however cautiouſly prepared, renders them abſolutely unfit for any medicinal purpoſes of conſequence: and perhaps this is the reaſon that little more is done to this ſection than throwing out the diſagreeable compoſitions, and ſuch as are out of uſe, introducing ſome new ones, which are commonly found in the ſhops, retrenching others of their moſt exceptionable ingredients, and abridging the labour of the apothecary in general.

Syrupus ſacchari.
Syrup of ſugar.

Take white Sugar, and Water, of each equal quantities. Boil them to the conſiſtence of a ſyrup.

Syrupus ſcilliticus.
Syrup of ſquills.

Take of Vinegar of Squills, a quart;
White Sugar, four pounds.
Make them into a ſyrup without boiling.

Syrupus de ſena & rheo.
Syrup of ſena and rhubarb.

Take of Sena-leaves, two ounces,
Choice Rhubarb, one ounce,
Sweet Fennel-ſeeds,
Cinnamon, each two drams,
Boiling Water three pints.

Let them ſteep together for a night in a cloſe ſtopt veſſel. The liquor being ſtrained out, and (after it has ſettled for ſome time) poured off from the feces, is to be boiled with three pounds of white Sugar over a gentle fire, into a ſyrup.

Syrupus de ſpina cervina, ſeu rhamno cathartico.
Syrup of buckthorn.

Take of the depurated juice of ripe Buckthorn berries, ſix pounds;
Brown Sugar four pounds.

Boil them over a gentle fire into a ſyrup; with which, while warm, mix a dram of the diſtilled Oil of Cloves, previouſly ground with a little Sugar.

Syrupus e ſymphyto.
Syrup of comfrey.

Take freſh Roots of the greater Comfrey,
Freſh Leaves of Plantane, of each half a pound.

Bruiſe them both together, and ſtrongly preſs out the juice; on the magma pour a quart of Water, and boil to the conſumption of one half; then ſtrain off the liquor; and having added it to the expreſſed juice, boil the mixture, with an equal weight of white Sugar, into a ſyrup.

Syrupus violarum.
Syrup of violets.

Take Freſh flowers of March Violets one pound;
Boiling Water, three pints.

Steep them together for a night in a glazed earthen veſſel cloſe covered. In the liquor ſtrained out, diſſolve twice its weight of white Sugar, ſo as to make a ſyrup without boiling [f].

GENERAL RULES *for making* SYRUPS.

I. The ſugar which is employed for ſuch ſyrups as are prepared without coction, is to be previouſly boiled in water to the conſiſtence of candy, the ſolution being clarified with whites of eggs, and carefully ſkimmed during the boiling.

II. Although in making theſe ſyrups, a double weight of ſugar to that of the liquor is directed, yet leſs will generally be ſufficient. Firſt therefore diſſolve in the liquor an equal quantity of ſugar, then gradually add ſome more in powder, till a little remains undiſſolved at the bottom, which is to be afterwards diſſolved, by ſetting the ſyrup in a water-bath.

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[f] Syrups which were in the former edition of this book, but omitted in this———ſyrupus de artemiſia, *ſyrup of mugwort*; de cichoreo cum rheo, *of ſuccory with rhubarb*; hederæ terreſtris, *of ground-ivy*; myrtinus, *of myrtle*; capillorum veneris, *of maiden-hair*; e floribus perſicorum, *of peach flowers*; e peto, *of tobacco*; e pulegio, *of penny-royal*; e roſis ſiccis, *of dry roſes*; e ſtæchade, *of ſtæchas.*

III. Copper veſſels, unleſs well tinned, ſhould not be employed in the making of acid ſyrups, or ſuch as are compoſed of the juices of fruits [g].

IV. All the rules laid down for making decoctions, are likewiſe to be obſerved in the decoctions for ſyrups. Vegetables, both for decoctions and infuſions, ought to be dry, unleſs they are expreſly ordered otherwiſe.

V. The ſyrups which are prepared by coction, ought to be clarified with whites of eggs; except the ſyrup of meconium, which therefore requires the pureſt ſugar.

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[g] The confectioners, who are the moſt dextrous people at theſe kinds of preparations, to avoid the expence of frequently new tinning their veſſels, rarely make uſe of any other than copper ones untinned, in the preparation even of the moſt acid ſyrups, ſuch as that of lemons, barberries, and the like. Nevertheleſs, by taking due care that their coppers be well ſcoured, and perfectly clean, and that the ſyrup remain no longer in them than is abſolutely neceſſary, they avoid giving any ill taſte to it from the metal.

SECTION IX.

HONIES, GELLIES, JUICES, and their FÆCULÆ.

Mel mercuriale.
Honey of mercury.

TAKE Juice of Mercury,
Honey, of each three pounds.

Boil them together to the conſiſtence of honey, taking off the ſcum which riſes a-top.

Mel roſatum.
Honey of roſes.

Take Red Roſes, dried, half a pound;
Boiling Water, two quarts.

Steep the roſes for a night; then ſtrain out the liquor, add to it four pounds of Honey, and boil the whole to the conſiſtence of honey.

Oxymel pectorale.
Pectoral oxymel.

Take Elecampane-roots,
Florentine Orrice-roots, of each half an ounce.

Boil them, (being previouſly cut and bruiſed) in a quart of Water, till it is reduced to a pint and a half; then ſtrain off the liquor, and add to it

Of Gum Ammoniac, unprepared, one ounce, diſſolved in
Vinegar, a quarter of a pint;
Honey, eight ounces.

Boil the whole together, taking off the ſcum as it ariſes, and then ſtrain

Oxymel ſcilliticum.
Oxymel of ſquills.

Take of Honey, three pounds;
Vinegar of Squills, two pints.

Boil them, (taking off the ſcum as it ariſes) to the conſiſtence of a ſyrup.

Oxymel ſimplex.

Simple oxymel.

Take of Honey, two pounds;
Vinegar, a pint.

Boil them according to art [a].

GELLIES.

Gelatina berberorum.

Gelly of barberries.

Take Barberries, clean picked from the ſtalks,
White Sugar, of each one pound.

Boil them, with a gentle heat, to a due conſiſtence; then paſs the gelly through a flannel cloth.

Gelatina cornu cervi.

Gelly of hartſhorn.

Take Shavings of Hartſhorn, half a pound;
Water, three quarts.

Boil with a gentle heat, in a glazed earthen veſſel, till two parts are waſted; ſtrain out the remaining liquor, and add to it

Of White Sugar candy, in powder, ſix ounces;
Spaniſh white Wine, a quarter of a pint;
Orange or Lemon juice, one ounce.

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[a] The decoction ordered in the three laſt preparations ſhould be performed with a very gentle and equable heat, that only the aqueous parts of the vinegar may exhale, and that the acid may be entirely united to the honey.——————Theſe, and all ſuch compoſitions as contain any thing of acid in them, ſhould be boiled in well glazed earthen veſſels, to prevent the inconveniencies which attend the uſe of metalline ones. Iron veſſels are apt to turn the matters black; copper to give a diſagreeable taſte and emetic quality; though the latter may be ſafely enough made uſe of if well tinned, and the operator be careful not to let the compoſition ſtand in them longer than is neceſſary.

Boil the whole over a gentle fire, to the conſiſtence of a ſoft gelly.

Gelatina ſeu miva cydoniorum.
Gelly of quinces.

Take of Quince-juice depurated, three pints;
White Sugar, a pound.
Boil them together according to art.

Gelatina ribeſiorum.
Gelly of currants.

This is made from Currants, in the ſame manner as the gelly of barberries.

JUICES.

Succus glycyrrhizæ.
Juice of liquorice.

Upon any quantity of Liquorice-root bruiſed, pour as much boiling Water as will cover it to the height of three inches. Let them ſteep together for three days: then boil them a little, and having preſſed out and ſtrained the liquor [b], evaporate it with a gentle heat [c] to a due conſiſtence.

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[b] If the ſtrained liquor be ſuffered to ſtand in the cool for a day or two, it will let fall a conſiderable deal of ſediment, from which it ſhould be carefully decanted before the evaporation.

[c] It is extremely difficult to boil this juice down ſo low as is required, without giving an empyreuma, or at leaſt a bitter taſte to it. This difficulty is owing to the manner of placing the fire underneath the evaporating pan; and may be entirely removed, by carrying on the inſpiſſation after the common manner no further than to the conſiſtence of a ſyrup, when the matter is to be poured into ſhallow tin pans, and placed in an oven moderately heated, which acting uniformly on every part of the juice, will ſoon bring it to any degree of conſiſtence required.

Succus prunorum ſylveſtrium, ſeu acacia Germanica.
Juice of ſloes, or German acacia.

Inſpiſſate any quantity of the juice of unripe Sloes, over a gentle fire.

Succi antiſcorbutici.
Antiſcorbutic juices.

Take Juice of Garden Scurvygraſs,
Oranges, of each a pint and a half;
Water-creſſes,
Brooklime, of each a pint;
White Sugar, ten ounces.

Mix and depurate them, according to art; then add half a pint of the Compound Water of Horſe-radiſh [d].

Sapa ſive rob ſambuci.
Sapa or rob of elder-berries.

Take Juice of ripe Elder-berries, two quarts;
White Sugar, half a pound.

Evaporate over a gentle fire, or in a water-bath, to the conſiſtence of honey.

Fæcula cucumeris aſinini, elaterium dictum.
The fæcula of wild cucumber, called elaterium.

Take any quantity of unripe wild Cucumbers: preſs out the juice, and let it reſt till the groſſer part has ſubſided; the upper thin part being then poured off, the remainder is to be committed to the filtre, and the thick matter, which remains on the paper, dried by the heat of the ſun.

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[d] The beſt and moſt effectual way of preſerving theſe juices in perfection, is to let them ſtand mixed together in a cool place for a few days, till the feces are partly ſubſided, and then to paſs them gently, ſeveral times, through a ſtrainer, until perfectly fine, to be preſerved for uſe in ſmall bottles, a little oil being poured on the ſurface. By this means they may be preſerved for a conſiderable time in a great degree of perfection; without the aſſiſtance of either ſugar or ſpirit.

SECTION X.

PRESERVES, CONSERVES, and SUGARS.

Radix angelicæ condita.
Candied angelica.

SLICE any quantity of freſh Angelica roots; and throwing away the pith, ſteep the cortical part for two days in ſeveral freſh parcels of water. After this, let them boil a little; then pour off the water, and put to the roots as much Syrup of Sugar, as will cover them to the height of two inches. After a day or two they may be again gently boiled, if there is occaſion, that the ſuperfluous moiſture may exhale, and the ſyrup remain of a due conſiſtence.

In the ſame, or a ſimilar manner, may be candied

Rad.	Eryngii,	*Roots of*	*Eryngo.*
	Helenii,		*Elecampane.*
	Satyrii,		*Satyrion.*
	Scorzoneræ,		*Scorzonera.*
	Symphyti majoris,		*Greater Comfrey.*
Cort.	Aurantiorum,	*The peel of*	*Oranges.*
	Citriorum,		*Citrons.*
	Limonum,		*Lemons.*

Nutmegs and Ginger are brought to us ready candied from India.

All ſorts of Fruits, Flowers, and Seeds, may likewiſe be preſerved, either by adding ſyrup, or by cruſting them over with ſugar; but this rather belongs to the buſineſs of confectionary, than that of pharmacy.

Iron likewiſe may be made the ſubject of this operation.

Mars ſaccharatus.

Sugared ſteel.

Put any quantity of clean filings of Iron, unprepared, into a braſs kettle ſuſpended over a very gentle fire. Add to them, by little and little, twice their weight of white Sugar boiled to the conſiſtence of candy, agitating the kettle continually, that the filings may be cruſted over with the ſugar, and taking great care to prevent their running into lumps [a].

CONSERVES.

Conſervæ	*Conſerves of the*
Fol. Abſinthii Romani,	*Leaves of Roman Wormwood.*
Cochleariæ hortenſis,	*Garden Scurvygraſs.*
Lujulæ,	*Wood-ſorrel.*
Menthæ,	*Mint.*
Rutæ, &c.	*Rue, &c.*
Flor. Anthos,	*Flowers of Roſemary.*
Malvæ,	*Mallows.*
Roſar. rubr. &c.	*Red Roſes, &c.*
Cort. ext. Aurantiorum,	*Outward peel of Oranges.*
Fruct. Cynoſbati.	*Hips.*

Conſerves are to be made from each of theſe ſubſtances, according to art; by beating them into a pulp (the ſtalks, leaves, &c. being firſt ſeparated) and gradually adding thrice their weight of white Sugar, during the operation. The moiſter ſimples require only double their weight of ſugar; and for the pulp of hips ſtill leſs is ſufficient.

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[a] This is a pretty preparation of ſteel, and an agreeable form of giving this metal in. But it needed not have been inſerted into the diſpenſatory, as the apothecaries never make it. The confectioners follow the proportions directed here; but they employ, beſides, a certain medium, without which the matter runs into maſſes and lumps; and of this they make a ſecret.

SUGARS.

Saccharum hordeatum ſeu penidiatum.
Barley-ſugar.

This is made by boiling white Sugar in Barley-water, (that is, decoction of barley) till it acquires a ductile conſiſtence, ſo as that it can be drawn out, and twiſted into threads or ſtrings.

Saccharum roſatum rubrum.
Red ſugar of roſes.

Take of White Sugar one pound;
Juice of red Roſes, four ounces.

Boil them over a gentle fire, till the juice is almoſt evaporated; then throw in an ounce of red Roſes, dried, and reduced to very fine powder. Pour out the matter upon a marble, and form it into lozenges, according to art[b].

Tabellæ diatragacanthi.
Lozenges of the compound powder of gum tragacanth.

Take of White Sugar, one pound;
Roſe-water, four ounces.

Set them over a gentle fire; and when the ſugar is diſſolved, throw in three ounces of the compound powder of gum Tragacanth; then pour out the matter upon a marble, and form it into lozenges.

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[b] The college of London have directed a more ſimple and leſs troubleſome way of making theſe lozenges, by firſt powdering the ſugar and the roſes ſeparately, then mixing them well together, and afterwards forming the compound into tablets with a little water, which are to be dried with a very gentle heat.

SECTION XI.

POWDERS.

Pulvis antiepilepticus, de gutteta dictus.
Antiepileptic powder, called pulvis de gutteta.

TAKE Roots of White Dittany,
Pœony,
Wild Valerian,
Miſletoe of the Oak, of each equal parts.
Mix, and make them into a powder [a].

Pulvis antilyſſus.
Powder againſt the bite of a mad dog.

Take of Aſh-coloured ground Liver-wort [b], one ounce,
Black Pepper, half an ounce.
Mix, and beat them into a powder [c].

Pulvis

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[a] This powder has undergone a conſiderable change ſince its laſt appearance. The form above contains ſeven leſs ingredients than the old one; moſt of the articles that are rejected ſavour too much of ſuperſtition, or appear upon other accounts evidently exceptionable; and it is probable, a ſeverer ſcrutiny had thrown out the miſletoe of the oak, whoſe virtues are greatly to be ſuſpected. However, as the powder now ſtands, it may well be looked upon as a medicine of ſome uſe; the teſtacea, which are in many compoſitions of this kind, are here prudently omitted, as they may be more conveniently added occaſionally.

[b] See a deſcription of this plant in page 41.

[c] This powder was firſt publiſhed in the *Philoſophical Tranſactions*, No. 237. from Mr. *Dampier*, and afterwards put, in the year 1721, into

Pulvis ari compoſitus.
Compound powder of arum-root.

Take of Arum-roots, newly dried, two ounces;
Calamus aromaticus,
Roots of Burnet Saxifrage, of each one ounce;
Crabs eyes, half an ounce;
Cinnamon, three drams;
Salt of Wormwood, two drams.

Mix, and make them into a powder according to art [d].

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into the *Pharmacopœia Londinenſis*, under the title it bears in this place, at the deſire of Dr. *Mead*, who had great experience of its good effects. Some years afterwards, the ſame gentleman, from a principle of benevolence to mankind, the diſtinguiſhing mark of a truly great mind, publiſhed and diſperſed a paper, containing the method of cure, which he had conſtantly found ſucceſsful in a very great number of inſtances, for the bite of a mad dog. In this paper, the directions were to the following effect:

Let the patient be blooded nine or ten ounces; and afterwards take a dram and a half of the above powder every morning faſting, for four mornings ſucceſſively, in half a pint of cows milk warm. After theſe four doſes are taken, the patient muſt go into the cold bath, or a cold ſpring, or river, every morning faſting for a month. He muſt be dipt all over, but not ſtay in (with his head above water) longer than half a minute, if the water be very cold. After this he muſt go in three times a week, for a fortnight longer.

In 1745, the world was favoured with a new and moſt elegant edition of Dr. Mead's *Mechanical Account of Poiſons*, in which we have the ſatisfaction to find this method of cure again recommended *, as having never failed of ſucceſs, where it had been followed before the *hydrophobia* begun, in a courſe of thirty years experience.

[d] This powder ſtands exactly as it was in the preceding edition of this diſpenſatory, and is a powerful medicine for the intention it is deſigned; nevertheleſs the roots of burnet ſaxifrage and the crabs eyes, are liable to objection, as ſupernumerary articles, increaſing rather the bulk, than adding any thing to the virtue of the medicine.

* *Page* 157. 167.

Pulvis cephalicus.
Cephalic powder.

Take Leaves of Aſarabacca,
Betony,
Marjoram, of each equal parts.
Beat them all together into a powder.

Pulvis e chelis cancrorum compoſitus.
Compound powder of crabs claws.

Take Crabs eyes,
Red Coral, of each one ounce;
Black tips of Crabs claws, two ounces.
Mix and make them into a powder [e].

Pulvis contrayervæ compoſitus.
Compound powder of contrayerva.

Take of Contrayerva, half an ounce;

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[e] This powder is greatly abridged, and much to its advantage; the pearls and bezoar added a great deal to the price, but nothing to the real value of the medicine; ſince it appears from M. Hombergs experiments on alcaline abſorbents, that they are among the weakeſt of the claſs. Amber is neither alcaline nor abſorbent, and is quite indigeſtible; calcined hartſhorn is good for as little; theſe therefore are deſervedly rejected. But this compoſition, even as now reformed, does not ſeem ſuperior, if equal, in virtue, to prepared oyſter-ſhells. See the *Memoirs of the royal academy of ſciences* for the year 1700. However, as there is ſtill ſome demand for the compound powder, eſpecially for family receipts, the apothecaries are obliged to the college for this convenient abridgement of it. See ſome further remarks in *Pharm. Reformat.* p. 154.

Compound teſtaceous powder of the *Hoſpital Diſpenſatory.*

Take of oyſter-ſhells prepared, one pound; white chalk, half a pound. Mix them together.

Teſtaceous powder with wax of the *Hoſpital Diſpenſatory.*

Into any quantity of yellow wax liquefied over a gentle fire, ſprinkle in (diligently ſtirring them together) a ſufficient quantity of prepared oyſter-ſhells, that is, till the wax will receive no more of the powder.

Virginian Snake-root, a dram and a half;
Cochineal, one dram;
Engliſh Saffron, half a dram;
Bole Armenic, three drams;
Compound powder of Crabs claws, ſeven drams.

Make them into a powder [f].

Pulvis Cornachini.
Cornachines powder.

Take Diaphoretic Antimony,
Creme of Tartar,
Scammony, of each equal parts.
Make them into a powder.

Pulvis diaromatôn.
Aromatic powder.

Take Canella alba,
Leſſer Cardamom ſeeds,
Mace,
Ginger, of each equal parts.
Beat them all together into a powder [g].

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[f] This powder, made into a bolus or electuary with a proper ſyrup, may ſerve for all the intentions deſigned to be anſwered by the *confectio Raleighana*, a medicine, which, as I am informed, has never been in uſe in *Scotland*.

The *Hoſpital Diſpenſatory* has exchanged the compound powder of crabs claws, in this compoſition, for prepared oyſter-ſhells.

[g] This powder is reduced to a conſiderable degree of elegance and ſimplicity; the galangal roots and ſeeds of biſhopſ-weed gave a diſagreeable taſte, without making any amends by their other qualities, theſe two articles were therefore juſtly thrown out, and the ginger as judiciouſly introduced in the room of them; and likewiſe of the cinnamon and cloves, which were not at all wanted in this compoſition.

Aromatic powder of the *Hoſpital Diſpenſatory.*

Take canella alba, ginger, of each equal parts. Mix them together.

Pulvis diaſennæ.
Compound powder of ſena.

Take Sena-leaves,
Creme of Tartar, of each two ounces;
Scammony,
Ginger, of each half an ounce.
Make them into a powder.

Pulvis diateſſaròn.
Powder of four ingredients.

Take Round Birthwort-roots,
Gentian-roots,
Bay-berries,
Myrrh, of each two ounces.
Make them into a powder, to which if two ounces of ſhavings of Ivory be added, it becomes

Pulvis diapente,
Powder of five ingredients.

Pulvis diatragacanthi.
Compound powder of gum tragacanth.

Take of Gum Tragacanth, one ounce;
Gum Arabic, five drams;
Liquorice,
White Poppy-ſeeds,
Starch, each two drams;
Marſhmallow-roots, half an ounce.
Beat them all together into a powder.

Pulvis hieræ picræ.
Powder of hiera picra.

Take Succotrine Aloes, four ounces;
Leſſer Cardamom-ſeeds,
Virginian Snake-root, of each half an ounce.
Mix, and beat them into a powder.

Pulvis ad partum.
Powder to promote delivery.

Take of Borax, half an ounce;

Caſtor

Caſtor,
Saffron, each a dram and a half.

Beat them all together into a powder; to which add of the

Diſtilled oil of Cinnamon, eight drops;
Amber, ſix drops.

Mix the whole well together.

Pulvis ſtypticus.

Styptic powder.

Take Roch Alum half an ounce;
Dragons-blood two drams.

Mix, and make them into a powder[h].

Pulvis vermifugus.

Powder againſt worms.

Take Leaves of Lavender-cotton,
Tanſey-flowers,
Worm-ſeed,
Coralline, of each half an ounce.

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[h] This powder has been long in repute as an aſtringent, under the title of *Pulvis Stypticus Helvetii.* Some have ſuppoſed the dragons-blood to be a whimſical ingredient (ſee *Pharmacop. Reformat.* p. 157.) and to have no ſhare in the effects of this medicine. Whatever truth there may be in this, a learned phyſician * aſſures us, from his own experience, that he never found any medicine ſo much to be depended on, in uterine hæmorrhagies, as a mixture of equal parts of alum and dragons-blood, whether to correct the too frequent return of the menſes, or their too great abundance; to ſtop the flooding which women with child are ſubject to; or to moderate the flow of the lochia. The quantity he gave was more or leſs, according to the exigencies of the patient. In violent bleeding, he gave half a dram every half hour; and ſeldom or never miſſed to ſtop the flux before three drams or half an ounce had been taken. The ſucceſs of this medicine in theſe evacuations, encouraged him to preſcribe it in the fluor albus, in which it had ſurpriſing good effects.

* See *Medical Eſſays abr.* vol. 1. p. 172.

Beat them into a powder; to which add
Diſtilled oil of Rue,
Savin, of each, received upon
Sugar, twenty drops.
Mix the whole well together [i].

GENERAL RULES *for making* POWDERS.

I. Particular care ought to be taken, that nothing carious, worm-eaten, or impure, be mixed in the compoſition of powders: the ſtalks and corrupted parts of plants are to be ſeparated.

II. The dry aromatics ought to be ſprinkled, during their pulverization, with a few drops of any proper water.

III. Let the moiſter aromatics be dried with a very gentle heat, before they are pounded.

IV. Gums, and ſuch other ſubſtances as are difficultly pulverable, are to be powdered along with the drier ones, that they may paſs the ſieve together.

V. Powders are to be prepared only in ſmall quantities at a time, and kept in glaſs veſſels, very cloſely ſtopt.

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[i] *Powder againſt worms* of the *Hoſpital.*

Take tanſey-flowers, worm-ſeed, of each three drams; ſalt of ſteel, one dram.

Mix, and make them into a powder.

Purging powder againſt worms of the *Hoſpital.*

Take of choice rhubarb, three drams; ſcammony, calomel, each one dram.

Make them into a powder.

SECTION XII.

ELECTUARIES, CONFECTIONS, ANTIDOTES, and LOHOCHS.

Confectio alkermes.
The confection of kermes.

EVAPORATE three pounds of the Syrup of Kermes, with a gentle heat, to the conſiſtence of honey: then mix into it the following ingredients reduced to a very fine powder:

Of Cinnamon,
Yellow Saunders, each ſix drams;
Cochineal, three drams;
Saffron, a dram and a half.

Electuarium antidyſentericum.
Antidyſenteric electuary.

Take of Diaſcordium, two ounces;
Locatelli's Balſam, one ounce.
Mix, and make them into an electuary.

Electuarium e baccis lauri.
Electuary of bay-berries.

Take Conſerve of Rue, two ounces;
Candied Ginger, one ounce;
Bay-berries, half an ounce;
Zedoary, two drams;
Ruſſia Caſtor, one dram;
Diſtilled Oil of Fennel, ten drops;
Syrup of Orange-peel, as much as is ſufficient.
Mix them into an electuary, according to art.

Electuarium cardiacum.
Cordial electuary.

Take Conſerve of Roſemary-flowers,
Red Roſes, of each one ounce and a half;
Candied Orange-peel,
Citron-peel,
Nutmegs, of each one ounce;
Ginger, ſix drams;
Confection of Kermes, half an ounce;
Diſtilled oil of Cinnamon, twenty drops;
Syrup of Clove-july-flowers, as much as is ſufficient.

Mix them into an electuary, according to art.

Diacaſſia.
Electuary of caſſia.

Take Pulp of Caſſia fiſtula, twelve ounces;
Tamarinds, ſix ounces;
Calabrian Manna, eight ounces;
Syrup of pale Roſes, one pound.

Diſſolve the manna in warm Water, ſtrain the ſolution, and evaporate it along with the ſyrup, over a gentle fire, to the conſiſtence of honey: then mix in the pulps, ſo as to make the whole into an uniform electuary, according to art [a].

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[a] The college have adopted this electuary from the *London pharmacopœia,* (ſomewhat altered for the better) in place of the *catholicon,* which was ſo ſeldom preſcribed, as to be kept in very few ſhops. Such an electuary as this is a very neceſſary officinal, to ſerve as a baſis for purgative electuaries, &c. as the pulping a ſmall quantity of the fruits for extemporaneous preſcriptions is very troubleſome. The tamarinds give this medicine a pretty taſte, and do not ſubject the compoſition to turn ſour, as might be expected, for after ſtanding four months, it was found to be no ſourer than when firſt made up.

Diaſcordium.
Electuary of ſcordium.

Take Leaves of Scordium,
Cinnamon,
Nutmegs,
Japan earth,
Gum Arabic,
Olibanum, of each one ounce;
Tormentil-roots,
Bole Armenic, of each one ounce and a half;
Opium (diſſolved in a ſufficient quantity of Canary Wine) one dram and a half;
Syrup of dry Roſes, boiled down to the conſiſtence of honey, thrice the weight of the powders.

Mix, and make them into an electuary, according to art [b].

Electuarium lenitivum pro clyſtere.
Lenitive electuary for glyſters.

Take Roots of Polypody of the Oak, two ounces;
Leaves of Mercury,
Fœnugreek-ſeeds,
Linſeed, of each one ounce;
Water, three quarts.

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[b] This compoſition ſeems to be very reaſonably reduced. The tormentil is increaſed in place of the biſtort and gentian, which laſt gave the medicine a diſagreeable taſte, without promiſing any ſuitable advantage. Nutmeg is certainly a properer ſpice than the pepper and ginger; and the olibanum is preferable in many reſpects to the ſtorax and galbanum. The ſcordium, which gives name to the compoſition, ſeems to be the moſt inſignificant ingredient left in it.

Strengthening confection of the *hoſpital diſpenſatory.*

Take of bole Armenic prepared, three ounces; tormentil-roots, nutmegs, olibanum, of each two ounces; opium, a dram and a half; ſyrup of dry roſes, thrice the weight of the powders. Mix them according to art.

Boil

Boil them to the conſumption of one half of the liquor, adding, towards the end of the coction,

of Sena leaves, two ounces;
Coriander-ſeeds, half an ounce.

Strain and preſs out the decoction, and adding to it two pounds of Honey, boil the mixture to the conſiſtence of a thick ſyrup. To this add,

Of the Pulp of Damaſk Prunes, one pound;
Caſſia fiſtula, half a pound.

Mix the whole into an electuary [c].

Mithridatium Damocratis.
Mithridate.

Take of Myrrh,
Saffron,
Agaric,
Ginger,
Cinnamon,
Spikenard,
Male Frankincenſe,

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[c] This lenitive electuary is preferable to ſuch as have powders in their compoſition, which frequently render them uſeleſs for the purpoſes which they are here intended for. The mercury and ſeeds might have been left out, and the quantity of polypody increaſed: perhaps ſugar may be better than honey, as it is leſs apt to turn ſour. Melaſſes or common treacle is an excellent ingredient in electuaries intended for long keeping, as it is not only unapt of itſelf to ferment, but likewiſe prevents ſuch ſubſtances as are this way diſpoſed, from running into fermentation.

Lenitive electuary of the *Hoſpital Diſpenſatory.*

Take three ounces of polypody roots, and three quarts of water. Boil till two quarts are waſted, adding towards the end of the coction, two ounces of ſena, and half an ounce of coriander ſeeds. Strain out the liquor, add to it four pounds of white ſugar, and boil to the conſiſtence of a thick ſyrup; with which mix a pound of the pulp of French prunes, half a pound of pulp of caſſia, and the ſame quantity of that of tamarinds. Make the whole into an electuary.

Seeds of Treacle-muſtard, of each ten drams;
Hartwort,
Opobalſamum (or balſam of Peru)
Camels-hay,
Flowers of Arabian Stæchas,
Coſtus (or Zedoary)
Galbanum,
Turpentine of Cyprus,
Long Pepper,
Caſtor,
Juice of Hypociſtis,
Styrax calamita,
Opoponax,
Indian leaf, of each one ounce;
Caſſia lignea,
Poley-mountain,
White Pepper,
Leaves of Scordium,
Seeds of the Carrot of Crete,
Carpobalſamum, (or Cubebs)
The Troches called Cyphi,
Bdellium, of each ſeven drams;
Celtic Nard,
Gum Arabic,
Seeds of Macedonian Parſley,
Opium,
Leſſer Cardamom-ſeeds,
Fennel-ſeeds,
Gentian-root,
Red Roſes,
Dittany of Crete, of each five drams;
Aniſeeds,
Roots of Aſarabacca,
True Acorus,
Phu (or wild Valerian)
Sagapenum, of each three drams;
Roots of Spignel,
True Acacia, (or the German)
Bellies of Scinks,

Seeds of St. Johns-wort, of each two drams and a half;
Clarified Honey, triple the weight of the powders;
Canary Wine, as much as is ſufficient to diſſolve the gums and juices.

Mix them all together into an electuary, according to art.

Electuarium pectorale.
Pectoral electuary.

Take Conſerve of Roſes, two ounces;
Compound powder of gum Tragacanth, half an ounce;
Flowers of Benzoine, one dram;
Balſamic Syrup, as much as is ſufficient.

Make them into an electuary.

Theriaca Andromachi.
Venice treacle.

Take Troches of Squills, ſix ounces;
Vipers,
The magma, or troches, called Hedychron,
Long Pepper,
Opium, of each three ounces;
Roots of the Illyrian (or Florentine) Orrice,
Red Roſes,
Scordium leaves,
Agaric,
Opobalſamum (or balſam of Peru)
Juice of Liquorice,
Seeds of wild Navew,
Cinnamon, of each one ounce and a half;
Myrrh,
Saffron,
Ginger,
Rhapontic, (or Tormentil-root)
Roots of Cinquefoil,

Leaves of Calamint,
Horehound,
Dittany of Crete,
Flowers of Arabian Stæchas,
Camels-hay,
Seeds of Macedonian Parſley,
Coſtus (or Zedoary)
Turpentine of Cyprus,
Male Frankincenſe,
White Pepper,
Black Pepper,
Caſſia lignea,
Indian Nard, of each ſix drams;
Cretan Poley,
Seeds of the Seſeli of Marſeilles, (or of the common Hartwort)
Aniſe,
Biſhops-weed,
Amomum (or Cloves)
Leſſer Cardamoms,
Fennel-ſeeds,
Seeds of Treacle-muſtard,
Roots of Gentian,
Spignel,
Pontic Phu, (or wild Valerian)
True Acorus,
Leaves of Germander,
Ground-pine,
St. Johns wort,
True (or German) Acacia,
Carpobalſamum (or Cubebs)
Terra Lemnia (or Bole Armenic)
Burnt Chalcitis (or green Vitriol calcined)
Styrax calamita,
Gum Arabic,
Juice of Hypociſtis,
Celtic Nard,
Indian leaf, of each half an ounce;
Tops of the leſſer Centaury,
Seeds of the Carrot of Crete,

Roots of the buſhy-rooted (or long) Birthwort,
Jews Pitch, (or Amber)
Galbanum,
Opoponax,
Sagapenum,
Caſtor, of each two drams;
Clarified Honey, triple the weight of the powders;
Canary Wine, as much as is ſufficient to diſſolve the gums and juices.

Mix them all together, ſo as to make an electuary, according to art.

Theriaca Edinenſis.

Edinburgh treacle.

Take of Virginian Snake-root, ſix ounces;
Wild Valerian-root,
Contrayerva-root, of each four ounces;
Aromatic powder, three ounces;
Reſin of Guaiacum,
Ruſſia Caſtor,
Myrrh, of each two ounces;
Engliſh Saffron,
Opium, of each one ounce;
Clarified Honey, thrice the weight of the powders;
Canary Wine, as much as is ſufficient to diſſolve the opium.

Make them, according to art, into an electuary; to which ſome Camphor may be added occaſionally [d].

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[d] *Theriaca* of the *Hoſpital Diſpenſatory.*

Take of Virginian ſnake-root, eight ounces; wild valerian-root, ſix ounces; leaves of ſcordium, four ounces; cloves, and myrrh, each three ounces; galbanum, two ounces; ſaffron, one ounce; opium, half an ounce; honey, thrice the weight of the powders. Mix them together according to art.

LOHOCHS.

Lohoch ex amylo.
Lohoch of ſtarch.

Take of Starch, two drams;
Japan earth, one dram;
Syrup of Comfrey,
Whites of Eggs, beat into a thin liquor, each one ounce.
Mix them together, ſo as to make a lohoch.

Lohoch commune.
Common lohoch.

Take freſh drawn Oil of ſweet Almonds,
Pectoral (or Balſamic) Syrup, of each one ounce;
White Sugar, two drams.
Mix, and make them into a lohoch.

Lohoch diatragacanthi.
Lohoch of the compound powder of gum tragacanth.

Take Compound powder of gum Tragacanth, two drams;
Japan-earth, one dram;
Whites of Eggs, beat up into a liquor, one ounce;
Syrup of Meconium, two ounces.
Mix, and make them into a lohoch.

Lohoch de lino.
Lohoch of linſeed.

Take freſh drawn Linſeed-oil,
Balſamic Syrup, of each one ounce;
Flowers of Sulphur,
White Sugar, of each two drams.
Mix them, ſo as to make a lohoch.

Lohoch de manna.
Lohoch of manna.

Take of Calabrian Manna,

Oil of Sweet Almonds, freſh drawn,
Syrup of Violets, each equal quantities.
Mix them into a lohoch.

Lohoch ſaponaceum.
Saponaceous lohoch.

Take of Spaniſh Soap, one dram;
Oil of Almonds, one ounce;
Pectoral (or balſamic) Syrup, an ounce and a half.
Make them into a lohoch, according to art.

Lohoch de ſpermate ceti.
Lohoch of ſperma ceti.

Take two drams of Sperma Ceti. Rub it with as much Yolk of Eggs, as will fit it to mix with half an ounce of freſh drawn Oil of Almonds, and an ounce of Balſamic Syrup, into the conſiſtence of a lohoch.

GENERAL RULES *for compoſing* ELECTUARIES.

I. The rules already laid down for decoctions and powders in general, are likewiſe to be obſerved in making the decoctions and powders for electuaries.

II. The gums, inſpiſſated juices, and ſuch other ſubſtances as are not pulverable, ſhould be diſſolved in the liquor preſcribed, then the powders added by little and little, and the whole kept briſkly ſtirring, ſo as to make an equable and uniform mixture.

III. Aſtringent electuaries, and ſuch as have pulps of fruits in their compoſition, ſhould be prepared in ſmall quantities at a time; the ſuperfluous moiſture of the pulps muſt be exhaled over a gentle fire, before the other ingredients are added to them.

SECTION XIII.

PILLS.

Pilulæ æthiopicæ.
Æthiopic pills.

TAKE Pure Quick-ſilver,
Golden Sulphur of Antimony,
Reſin of Guaiacum, of each half an ounce.

Grind them together in a glaſs mortar, till the mercurial globules entirely diſappear; then add
Of Spaniſh Soap, half an ounce;
Balſamic Syrup, as much as is ſufficient.

Make the whole into a maſs for pills [a].

Pilulæ cocciæ.
The pills cocciæ.

Take Succotrine Aloes,

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[a] Theſe pills ſeem to be much more effectual than thoſe of the laſt edition, the æthiops mineral being ſo ſlow and unactive a medicine, that many have doubted whether it enters the lacteals. The preſent form reſembles much Dr. *Plummers* pills in the *Medical Eſſays, abr.* vol. 1. p. 206. to which they are preferable in one reſpect, that they are leſs apt to run off by ſtool. The ſoap ſeems to be added purely to promote their diſſolution in the ſtomach; for pills made up of reſins, and ſubſtances not eaſily diſſoluble, frequently paſs through the body entire; which ſometimes happened to the laſt form of theſe pills.

Aloetic pills.

Take Succotrine aloes, white ſoap, of each equal parts; thin honey, as much as is ſufficient. Make them into a maſs. *Pharm. Paup.*

Colocynth,

Colocynth,
Scammony, of each one ounce;
Vitriolated Tartar, two drams;
Diſtilled oil of Cloves, one dram;
Syrup of Buckthorn, as much as is ſufficient.
Beat them up into a maſs.

Pilulæ communes, vulgo Rufi.
The common pills, vulgarly called Rufus's pills.

Take of Succotrine Aloes, two ounces;
Myrrh, one ounce;
Saffron, half an ounce;
Syrup of Orange-peel, a ſufficient quantity.
Mix, and beat them into a maſs for pills.

Pilulæ de duobus.
Pills of two ingredients.

Take of Colocynth,
Scammony, each one ounce;
Vitriolated Tartar, two drams;
Diſtilled oil of Cloves, one dram;
Syrup of Buckthorn, as much as is ſufficient.
Reduce them into a maſs, according to art.

Pilulæ ecphracticæ cum aculeo.
Ecphractic pills.

Take Succotrine Aloes,
Extract of black Hellebore,
Scammony, of each one ounce;
Gum Ammoniacum,
Reſin of Guaiacum, of each half an ounce;
Vitriolated Tartar, two drams;
Diſtilled oil of Juniper, one dram;
Syrup of Buckthorn, a ſufficient quantity.
Beat them into a maſs [b].

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[b] The name of this pill is improper, ſince the college has obliged us by dropping the *pil. ecphracticæ ſine aculeo,* which were never preſcribed. But as this pill, or one of the ſame ſtrength containing ſeve-

Pilulæ ecphracticæ chalybeatæ.

Ecphractic pills with ſteel.

Take of the maſs of Common Pills, an ounce and a half;
Gum Ammoniacum,
Reſin of Guaiacum, each half an ounce;
Salt of Steel, five drams,
Elixir Proprietatis, as much as is ſufficient.
Make them into a maſs [c].

Pilulæ fœtidæ.

Fetid pills.

Take of Aſa fœtida, one dram and a half;
Ruſſia Caſtor, one dram;
Camphor, half a dram;
Diſtilled oil of Hartſhorn, a ſufficient quantity.
Beat them all together into a maſs.

Pilulæ de gambogia.

Pills of gamboge.

Take Succotrine Aloes,
Extract of black Hellebore,

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ral ſuperfluous ingredients, has been much in uſe in *Scotland*, and for a long time preſcribed under that title, the college have ſtudied convenience rather than propriety, in keeping the old name.

Purging ecphractic pills of the *Hoſpital.*

Take Succotrine aloes, extract of black hellebore, ſcammony, of each two ounces; vitriolated tartar, three drams; diſtilled oil of juniper, a dram and a half; ſyrup of buckthorn, as much as is ſufficient to make the whole into a maſs.

[c] *Chalybeat pills* of the *Hoſpital.*

Take gum ammoniacum, extract of gentian, ſalt of ſteel, myrrh, of each one ounce; ſyrup of ſugar, as much as is ſufficient. Make them into a maſs for pills, according to art.

Ecphractic chalybeat pills of the *Hoſpital Diſpenſatory.*

Take Succotrine aloes, extract of black hellebore, galbanum, myrrh, of each one ounce; ſyrup of ſugar, a ſufficient quantity. Beat them into a maſs.

Gamboge,
Calomel, of each two drams;
Diſtilled oil of Juniper, half a dram;
Syrup of Buckthorn, as much as is ſufficient.
Make them into a maſs.

Pilulæ gummoſæ.
Gum-pills.

Take Gum Ammoniacum,
Sagapenum, of each half an ounce;
Ruſſia Caſtor,
Myrrh, of each three drams;
Aſa fœtida,
Galbanum, of each two drams;
Diſtilled oil of Amber, half a dram;
Elixir Proprietatis, as much as is ſufficient.
Beat them together into a maſs [d].

Pilulæ mercuriales.
Mercurial pills.

Grind an ounce of pure Quickſilver, in a glaſs mortar, with a ſufficient quantity of Honey, till the globules of quickſilver ceaſe to appear: then add two ounces of Gum Ammoniacum, and make the whole into a maſs, according to art [e].

Pilulæ mercuriales laxantes.
Laxative mercurial pills.

Grind an ounce of pure Quickſilver with a ſufficient quantity of Honey, till the quickſilver diſappears; then add

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[d] *Gum-pills* of the *Hoſpital Diſpenſatory.*

Take aſa fœtida, ſhining ſoot, myrrh, each two ounces; diſtilled oil of amber, a dram and a half; ſyrup of ſugar, a ſufficient quantity. Mix, according to art.

[e] Theſe pills were in the laſt edition ordered to be made up with gum guaiacum and balſam of Copaiba; but after keeping ſome time, they grew hard and indiſſoluble, paſſing often through the body entire.

Of Gum Ammoniacum,
Extract of black Hellebore,
Choice Rhubarb, each half an ounce.
Beat them into a maſs, according to art [f].

Pilulæ pacificæ, vulgo Matthæi.
The pacific pills, commonly called Matthews's pills.

Take of Ruſſia Caſtor, two ounces;
English Saffron,
Opium, each one ounce;
Soap of Tartar, three ounces;
Balſam of Copaiba, as much as is ſufficient.
Mix, and make them into a maſs, according to art [g].

Pilulæ pectorales.
The pectoral pills.

Take of Gum Ammoniacum, half an ounce;
Benzoine, three drams;
Myrrh, two drams;
Engliſh Saffron, one dram;
Aniſated Balſam of Sulphur, half a dram;
Balſamic Syrup, a ſufficient quantity.
Make them into a maſs, according to art [h].

Pilulæ, ſeu extractum Rudii.
The pills, or extract of Rudius.

Take roots of black Hellebore,

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[f] *Laxative mercurial pills* of the *Hoſpital.*

Take of quickſilver, an ounce and a half; thin honey, as much as will be ſufficient. Rub them together, till the mercury diſappears; then add an ounce of the maſs of pil. cocciæ, and the ſame quantity of gum ammoniacum. Mix, according to art.

[g] *Pacific pills* of the *Hoſpital Diſpenſatory.*

Take galbanum, myrrh, white ſoap, of each two ounces; opium, one ounce; ſyrup of ſugar, as much as is ſufficient to make the whole into a maſs fit for pills.

[h] *Pectoral pills* of the *Hoſpital.*

Take of gum ammoniacum, an ounce and a half; myrrh, one ounce; balſam of ſulphur terebinthinated, one dram; ſyrup of marſhmallows, as much as will make the whole into a maſs.

Colocynth, of each two ounces.

Bruiſe them very well; and pour on two quarts of Water; boil to the conſumption of one half. Paſs the decoction through a ſtrainer, and evaporate it to the conſiſtence of honey; then add the following ingredients reduced to fine powder;

Of Succotrine Aloes, two ounces;
Scammony, one ounce.

When the maſs is taken from the fire, mix into it

Of Vitriolated Tartar, two drams;
Diſtilled Oil of Cloves, one dram [i].

Pilulæ ſcilliticæ.
Scillitic pills.

Take of Spaniſh Soap, one ounce;
Gum Ammoniacum,
Prepared Millepedes,
Freſh Squills, each half an ounce;
Balſam of Copaiba, as much as is ſufficient.

Reduce them into a maſs, according to art [k].

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[i] According to the experiments of Monſ. *Boulduc*, water is the proper menſtruum for black hellebore and colocynth. See the note on theſe two articles, in the former part of this book, p. 24, and 131. Boiled in water, they yield a conſiderable quantity of gummy extract, which purges ſufficiently, without any inconvenience; while the reſinous extract obtained from them by ſpirit of wine, is not only in very ſmall quantity, but likewiſe occaſions intolerable griping pains, without proving at all cathartic.

[k] Theſe pills are pretty much preſcribed in *Scotland*, for promoting urine and expectoration, and in general for attenuating the viſcidity of the fluids. As their virtue is chiefly from the ſquills, the other ingredients are often varied in extemporaneous preſcriptions; the ſoap is frequently omitted, as being of little uſe in the ſmall quantity here ordered, and needleſly increaſing the bulk of the medicine; and other powders, as the leſſer cardamom-ſeeds, ſubſtituted to the millepedes. In any of theſe forms, if the ſquills are freſh and juicy, there is no need of balſam; but as the maſs ſoon hardens, it muſt be formed immediately into pills.

Pilulæ ſtomachicæ.
Stomachic pills.

Take of Succotrine Aloes, one ounce;
Rhubarb, ſix drams;
Gum Ammoniacum, three drams;
Extract of Gentian,
Myrrh, each two drams;
Vitriolated Tartar, one dram;
Diſtilled Oil of Mint, half a dram;
Syrup of Sena and Rhubarb, as much as is ſufficient.

Make them into a maſs [l].

Pilulæ e ſtyrace.
Storax-pills.

Take of Storax calamita, five drams;
Gum Tragacanth, one ounce;
Olibanum,
Opium, of each half an ounce;
Syrup of Meconium, a ſufficient quantity.

Make them into a maſs, according to art [m].

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[l] The rhubarb is certainly more eligible than the ſena in theſe pills; though in ſuch a ſmall quantity it is but of little uſe; and perhaps the extract of gentian is ſuperfluous in a pill containing aloes. The ſalt is added probably for a gentle ſtimulus, and to promote the diſſolution of the pill, which is both a ſlow and a weak purge.

Stomachic pills of the *Hoſpital.*

Take of Succotrine aloes, an ounce and a half; gum ammoniac, myrrh, each half an ounce; vitriolated tartar, two drams; diſtilled oil of mint, half a dram; ſyrup of ſugar, a ſufficient quantity.

Mix according to art.

[m] In a former edition of this book, balſam of Tolu was ſubſtituted to juice of liquorice, on account probably of the difficulty of mixing the latter, and conſequently the opium, equally with the other ingredients. But as the pills became by that means too reſinous, they often paſſed

GENERAL RULES *for the making of* PILLS.

I. Let the three firſt rules above laid down for the making of powders, be here likewiſe carefully obſerved.

II. The gums and inſpiſſated juices are to be firſt ſoftened with the preſcribed liquor; the powders are then to be added, by little and little, and the whole beat well together till perfectly mixed.

III. The maſſes for pills are beſt kept in bladders, which ſhould be moiſtened now and then with ſome of the ſame kind of liquor with which the maſſes were made up.

undiſſolved through the ſtomach; for this reaſon, gum tragacanth is now put in place of the balſam and myrrh. The trifling quantity of ſaffron is juſtly thrown out; nor, conſidering the ſmallneſs of the quantities of all the ingredients, is any alteration in them very material, provided the proportion of opium to the whole is continued the ſame.

SECTION XIV.

TROCHES.

Trochiſci albi Rhaſis, ſeu ſief album.
White troches of Rhaſes, or white ſief.

TAKE of Ceruſs, ten drams;
Sarcocolla, three drams;
Tragacanth,
Starch, each two drams;
Camphor, half a dram;
Roſe-water, as much as is ſufficient.
Make them into troches, according to art [a].

Trochiſci bechici albi.
White pectoral troches.

Take of White Sugar candy, one pound and a half;
Florentine Orrice-root, one ounce and a half;
Liquorice, one ounce;
Starch, half an ounce;
Mucilage of gum Tragacanth, as much as is ſufficient.
Make them up into troches.

Trochiſci bechici nigri.
Black pectoral troches.

Take of Liquorice-juice, two ounces;

[a] *White troches* of the *Hoſpital Diſpenſatory.*

Take of ceruſs, ten drams; gum Arabic, ſtarch, each three drams; camphor, half a dram. Make them into troches, with a ſufficient quantity of roſe-water.

Balſam of Tolu, one dram;
Gum Tragacanth, half an ounce;
White Sugar, four ounces;
Hyſſop-water, as much as is ſufficient.

Let them be made into troches, according to art.

Trochiſci cardialgici.
Cardialgic troches.

Take of Oiſter-ſhells [b],
White Chalk powdered, each two ounces;
Gum Arabic, half an ounce;
Nutmegs, half a dram;
White Sugar, ten ounces;
Balm-water, a ſufficient quantity.

Make them into troches, according to art.

Trochiſci cypheos, pro mithridatio.
Troches called Cyphi, for mithridate.

Take Pulp of ſtoned Raiſins of the Sun,
Turpentine of Cyprus, of each three ounces;
Myrrh,
Squinanth, of each one ounce and a half;
Cinnamon, half an ounce;
Saffron, one dram;
Bdellium,
Spikenard,
Caſſia lignea,
Roots of the round (or long) Cyperus,
Juniper-berries, of each three drams;

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[b] M. Homberg found prepared oiſter-ſhells very effectual in removing ſome diſorders of the ſtomach, and aſcribes their virtue in part to a ſaline ſubſtance, which he thinks is different from ſea-ſalt, and ſuſpects to be from the animal, or at leaſt much altered by it. Conſidering that crabs eyes are liable to ſophiſtication, perhaps oiſter-ſhells or egg ſhells would be a better ſtandard abſorbent for the ſhops. Homberg has omitted in his liſt egg-ſhells, crabs-claws, and white chalk: (*Mem. de l'acad. des ſcienc.* pour l'an. 1700.)

Aſpalathus (or yellow Saunders) two drams and a half;
Calamus aromaticus, nine drams;
Clarified Honey, as much as is ſufficient.

Grind the bdellium and myrrh with as much Canary Wine, as will reduce them to the conſiſtence of honey; then add the pulp of the raiſins, the turpentine, and the honey; and laſtly the other ingredients, reduced to a very ſubtile powder. Make the whole into troches, according to art.

Trochiſci diaſulphuris.
Troches of ſulphur.

Take Flowers of Sulphur, one ounce;
Benzoine, one dram;
White Sugar, four ounces;
Mucilage of Gum Tragacanth, as much as is ſufficient.

Mix, and make them into troches, according to art.

Trochiſci dicti magma hedychroi, pro theriaca Andromachi.
Troches, called the maſs hedychroon, for Venice-treacle.

Take Leaves of Marum,
Marjoram,
Aſpalathus (or yellow Saunders)
Roots of Aſarabacca, of each two drams;
Camels-hay,
Calamus aromaticus,
Pontic Phu (or wild Valerian-root)
Xylobalſamum (or Agallochum)
Opobalſamum (or balſam of Peru)
Coſtus (or Zedoary)
Cinnamon, of each three drams;
Myrrh,
Indian leaf (or Bay-leaves)
Indian Nard,
Caſſia lignea,

Saffron,

Saffron, of each ſix drams;
Amomum (or Cloves) one ounce and a half;
Maſtich, one dram;
Canary Wine, as much as is ſufficient.

Make them into troches, according to art.

Trochiſci e terra Japonica.

Troches of Japan earth.

Take of Japan earth, two ounces;
Gum Tragacanth, half an ounce;
White Sugar, one pound;
Roſe-water, a ſufficient quantity.

Make them into troches

Trochiſci de minio.

Red-lead troches.

Take of Red Lead, half an ounce;
Sublimate Mercury corroſive, one ounce;
Crumb of the fineſt Bread, four ounces.

Make them up with Roſe-water into oblong troches.

Trochiſci e myrrha.

Troches of myrrh.

Take of Myrrh, half an ounce;
Madder roots,
Leaves of common Penny-royal,
Ruſſia Caſtor, of each three drams;
Cummin-ſeed,
Aſa fœtida,
Galbanum, of each two drams;
Diſtilled Oil of Rue,
Savin, each twenty drops;
Elixir Proprietatis, as much as is ſufficient.

Let the gums be ſoftened with the elixir, into a maſs of the conſiſtence of honey; then add the oils and powders, and make the whole into troches, according to art.

Trochiſci ſcillitici, pro theriaca Andromachi.

Troches of ſquills, for Venice-treacle.

Take a whole Squill, after the leaves and ſtalk are withered. Having taken off the outward ſkin, incloſe the

the ſquill in a paſte of Wheat-flower, and bake it in an oven, till the paſte is dried into a hard cruſt.

Let three ounces of Squills, thus baked tender, be beat in a mortar, with two ounces of the meal of white Vetch (or of Wheat) into a paſte; which form into troches, to be afterwards dried in the ſhade.

But the Squill itſelf, moderately dried, is juſtly preferred to theſe troches.

Trochiſci viperini, pro theriaca Andromachi.
Troches of vipers, for Venice-treacle.

Take of Vipers fleſh, (firſt freed from the ſkin, inteſtines, fat, heads, and tails; then boiled in water, with a little dill and ſalt, till it has grown ſoft; and afterwards ſeparated from the back-bone,) eight ounces.
Biſket, pounded and paſſed through a ſieve, two ounces.

Beat them together, with a ſufficient quantity of the Liquor in which the Vipers were boiled, into a maſs; which form into troches, according to art.

Theſe troches are brought to us ready made from abroad; but the Vipers Fleſh itſelf, dried, is juſtly preferred to them.

GENERAL RULES *for making* TROCHES.

I. The three firſt rules laid down for making powders, are alſo to be obſerved in the powders for troches.

II. If the maſs proves ſo glutinous, as to ſtick to the fingers in making it up, the hands may be anointed with any convenient ſweet or aromatic oil; or elſe ſprinkled with powder of ſtarch, or that of liquorice.

III. In order to dry the troches thoroughly, put them on an inverted ſieve, in a ſhady, open place, through which the air freely paſſes; and turn them frequently.

IV. Troches are to be kept in glaſs veſſels or in earthen ones well glazed.

SECTION XV.

OILS.

OILS *by* Expression.

Oleum amygdalarum dulcium.

Oil of ſweet almonds.

TAKE any quantity of Sweet Almonds, newly dried.

Having bruiſed them in a marble mortar, include them in a canvas bag, and gradually force out the oil by means of a preſs, without the aſſiſtance of fire.

Oleum Amygdal. amar.	*Oil of Bitter Almonds.*
Juglandium,	*Walnuts.*
Macis,	*Mace.*
Nucis moſchatæ,	*Nutmegs.*
Sem. Lini,	*Linſeed.*
Sinapi,	*Muſtard-ſeed.*

Theſe oils are obtained in the ſame manner as that from ſweet almonds, only here the iron plates of the preſs are to be moderately heated.

Oleum Olivar. maturum,	*Ripe Oil of Olives.*
Omphacinum,	*Unripe Oil of Olives.*
Laurinum,	*Oil of Bays.*

Theſe are brought to us ready-made from other places.

Oils *by* Infusion *and* Decoction.

Oleum abſinthites.

Oil of wormwood-tops.

Take of the Tops of common Wormwood, freſh-gathered, and bruiſed, one pound;

Ripe Oil-Olive, three pints.

Boil them gently together, till the herb is almoſt criſp; then ſtrain and preſs out the oil.

In the ſame manner are prepared,

Oleum Anethinum,	*Oil from Dill-Leaves.*
Chamæmelinum,	*Camomile-flowers.*
Hyperici,	*Tops of St Johns wort*
Liliorum alb.	*Flow. of white Lily.*
Roſarum rub.	*Red Roſes.*
Rutaceum.	*Leaves of Rue.*

Oleum lumbricorum.
Oil of earth-worms.

Take of Earth-worms, well waſhed, half a pound;
Ripe Oil-Olive, a quart;
White Wine, half a pint.

Boil them together in balneo mariæ, till the wine is evaporated; then preſs out the oil, and afterwards ſtrain it for uſe.

Oleum mucaginum.
Oil of mucilages [a].

Take freſh roots of Marſh-mallows (or white Lily) bruiſed, four ounces;
Freſh Squills, bruiſed, two ounces;
Fœnugreek-ſeed,
Linſeed, of each one ounce and a half.

Steep theſe ingredients in a ſufficient quantity of Water, then gently boil them till they give out a thick viſcous mucilage, which, being ſtrongly preſſed out, and ſtrained, is to be boiled with half a gallon of Oil-Olive, in balneo mariæ, or over a very gentle fire, till the aqueous humidity is exhaled, continually ſtirring the mixture, to prevent its burning.

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[a] This oil has a very improper Name, ſince the mucilaginous Part of the ingredients is entirely thrown out towards the end of the Decoction.

SECTION XVI.

BALSAMS.

Balſamum anodynum, vulgo Guidonis.

The anodyne (commonly called Guido's) balſam.

TAKE of Galbanum,
Tacamahacca, each half a pound;
Venice Turpentine, one pound.

Put them into a retort, whereof they may fill two thirds, and diſtill, with a fire gradually increaſed. Separate, according to art, the red oil, or balſam, from the liquor which ſwims above it.

Balſamum ad apoplecticos.

Apoplectic balſam.

Liquefy one ounce of expreſſed Oil of Nutmegs, in a ſilver-veſſel; and when taken from the fire, mix into it, according to art,

Of Diſtilled Oil of Cloves,
Lavender,
Roſemary, each half a dram;
Amber, half a ſcruple;
Balſam of Peru, one dram.

Balſamum Locatelli.

Balſam of Locatellus.

Melt a pound of yellow Wax, over a gentle fire, in a pint and a half of the beſt Olive-Oil. Then add a pound and a half of Venice Turpentine; and having taken them from the fire, mix in two ounces of Balſam of Peru, and one ounce of Dragons blood in powder, keeping the whole continually ſtirring, till the balſam has grown cold.

Balſamum ſaponaceum, vulgo oppodeltoch.
The ſaponaceous balſam, commonly called oppodeltoch.

Diſſolve a pound of Spaniſh Soap, in two quarts of Rectified Spirit of Wine, by digeſting them together in a gentle heat. To this ſolution add,

Of Camphor, two ounces;
Diſtilled oil of Roſemary,
Origanum, each half an ounce.

Shake them well together, till they are perfectly mixed.

By occaſionally adding Tincture of Opium to this balſam, it becomes

Balſamum anodynum Bateanum.
Bates's anodyne balſam[a].

Balſama ſulphuris.
Balſams of ſulphur.

See theſe under the chemical preparations.

Balſamum traumaticum.
Vulnerary balſam.

Take of Powdered Benzoine, two ounces;
Balſam of Peru, one ounce and a half;
Hepatic Aloes in powder, half an ounce;
Rectified Spirit of Wine, one quart.

Digeſt them in a ſand-heat for four days, and then ſtrain out the balſam[b].

Balſamum

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[a] The *anodyne balſam* of the *hoſpital* is made by mixing half a pound of liquid laudanum with a pound and a half of ſaponaceous balſam.

[b] This is what is commonly called *Wades balſam*, from an extraordinary cure ſaid to have been performed by it upon that gentleman. It is a French compoſition, and was handed about as a ſecret, under the name of *Baume de commendeur.* It was firſt publiſhed in

Balſamum viride.
Green balſam.

Take Linſeed oil,
Oil of Turpentine, of each one pound;
Verdigreaſe in powder, three drams.

Boil and ſtir them well together, till the verdigreaſe is diſſolved [c].

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in the *Straſburgh* diſpenſatory, with the title of *Balſamum Perſicum*, and afterwards in the *Pariſian* pharmacopœia, under that of *Balſamum commendatoris*. The *Edinburgh* college had reduced the exuberancy of this compoſition pretty much in the laſt edition of their *pharmacopœia*; and ſtill more in this, without any loſs to it, conſidered as a medicine.

In the *hoſpital diſpenſatory*, olibanum is ſubſtituted to the balſam of Peru.

[c] *Balſamum piceum*, tar-balſam.

Take two ounces of tar, and a pint of rectified ſpirit of wine. Digeſt them together in a ſand-heat for three days; then pour off the balſam from the feces. *Pharm. paup.*

SECTION XVII.

OINTMENTS.[a]

Unguentum Ægyptiacum.
Ægyptian ointment.

TAKE of Verdigreaſe finely powdered, five ounces;
Honey, fourteen ounces;
Vinegar, ſeven ounces.

Boil them over a gentle fire, to the conſiſtence of an ointment.

[a] In this ſection and the following, the college have been very ſparing of their emendations, eſpecially of ſuch ointments and plaſters as are uſed by the ſurgeons in their dreſſings. They were at no other pains about them, as I am informed, than to enquire of the ſurgeons what forms they followed in making them up. For this reaſon, ſuch an exuberant compoſition, as the *emplaſtrum defenſivum* ſtill remains unaltered, as they were aſſured, that ſome ſurgeons of the greateſt practice continued ſtill to make it after the old preſcription, without the omiſſion of any one juice. It would have been very eaſy, no doubt, to have made a plaſter of four or five ingredients as good as this for the purpoſe; but I am of opinion that neither one nor other would have anſwered any uſeful end. It is for the ſame reaſon the college have inſerted the *compound epiſpaſtic plaſter*, which has been in uſe for a long time in many of the ſhops, as the moſt infallible bliſter. The *unguentum baſilicon nigrum* is ſtill much in uſe, the *flavum* is employed by very few, no difference being found between it and the *linimentum Arcæi*. Some ointments are left which are near worn out of uſe, as the *diapompholygos*, and *deſiccativum rubrum*. As ſome ſhops keep the *diachylon ſimplex*, others the *diapalma*, both are retained, though one of them might have been very well expunged.

Unguentum album.
White ointment.

Take of Unripe Oil-Olive, three pints;
Cerufs, one pound;
White Wax, nine ounces.

Mix, and make them into an ointment, according to art.

Unguentum album camphoratum.
Camphorated white ointment.

This unguent is made, by mixing with the foregoing, when taken from the fire, one ounce of Camphor, previouſly ground with a few drops of Oil of Almonds.

Unguentum antipſoricum.
Ointment againſt the itch.

Take roots of Elecampane, and thoſe of Sharp-pointed Dock, of each, cut ſmall and bruiſed, three ounces. Boil them in a mixture of three pints of Water, and one pint of Vinegar, till half of the liquor is waſted; ſtrongly preſs and ſtrain out the remaining half, and add to it ten ounces of the leaves of Water-creſſes, freſh-gathered and bruiſed, and four pounds of Hogs Lard. Let them all boil again till the moiſture is exhaled; then preſs out the ointment, and diſſolve in it four ounces of yellow Wax, and the ſame quantity of Oil of Bays. Mix the whole well together.

Sulphur may be occaſionally added to this ointment.

Unguentum antipſoricum, cum mercurio.
Ointment againſt the itch, with mercury.

This ointment is made, by adding to the foregoing four ounces of Quickſilver, killed with a ſufficient quantity of Venice Turpentine, and mixing them together, according to art, into an unguent.

Unguentum, ſeu linimentum Arcæi.
The ointment, or liniment of Arcæus.

Take of Hogs Lard, one pound,

Goats Suet, two pounds,
Venice Turpentine,
Gum Elemi, of each one pound and a half.

Melt and ſtrain them together, ſo as to make an ointment, according to art.

Unguentum baſilicon.
The ointment called baſilicon.

Take Yellow Wax,
Goats Suet,
White Reſin,
Pitch,
Venice Turpentine, of each half a pound;
Olive-Oil, two pints and a half.

Melt all the other ingredients in the oil, ſtirring them well together; and then ſtrain off the ointment.

Unguentum e lapide calaminari.
Ointment of calamine ſtone.

Melt eighteen ounces of yellow Wax in a quart of Olive-Oil. Gradually ſprinkle in ten ounces and a half of Calamine ſtone; and mix and ſtir them well together, till the ointment grows cold.

Unguentum citrinum.
Yellow ointment.

Take of Quickſilver, one ounce;
Spirit of Nitre, two ounces.

Digeſt them in a ſand-heat 'till the quickſilver is diſſolved; and while the ſolution is very hot, mix with it a pound of Hogs Lard, which has been previouſly melted, and is juſt beginning to coagulate. Stir theſe ingredients briſkly together in a marble mortar, ſo as to form the whole into an ointment.

Unguentum deſiccativum rubrum.
The red deſiccative ointment.

Take of Oil-Olive, a pint and a half;
White Wax, half a pound.

Melt them together; and having taken them from the fire, gradually ſprinkle in

Of Calamine ſtone, ſix ounces;
Litharge of gold,
Bole Armenic, each four ounces;
Camphor, firſt ground with a little oil of Almonds, three drams.

Stir them briſkly together into an ointment.

Unguentum dialthææ.

Ointment of marſhmallows.

Take Oil of Mucilages, two pounds;
Yellow Wax, half a pound;
White Reſin, three ounces;
Venice Turpentine, one ounce and a half.

Mix and make them into an ointment, according to art.

Unguentum diapompholygos.

Ointment of Pompholyx.

Take of Unripe Oil of Olives, twenty ounces;
Juice of the berries of common (or deadly) Night-ſhade, eight ounces.

Boil them over a gentle fire till the juice is exhaled; and, towards the end of the coction, melt in the oil five ounces of white Wax. Then take the mixture from the fire; and add to it, while hot, the following ingredients reduced to powder:

Of Cerufs, four ounces,
Burnt Lead,
Pompholyx, each two ounces;
Pure Frankincenſe, one ounce.

Mix and make them into an ointment [b].

Unguentum epiſpaſticum.

Bliſtering ointment.

Take Hogs Lard,
Venice-Turpentine, of each three ounces;

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[b] *Emollient ointment*, of the *hoſpital.*

Take of palm-oil four pounds; yellow wax, half a pound; linſeed oil, two pounds. Liquefy them together.

Of Yellow Wax, one ounce,
Cantharides, three drams.

To the lard and wax melted together, add firſt the cantharides reduced to powder, and then the turpentine. Laſtly, mix the whole into an ointment.

Unguentum mercuriale.
Mercurial ointment.

Take of Hogs Lard, two ounces;
Quickſilver, half an ounce.

Beat them diligently together, till the quickſilver diſappears.

This ointment may likewiſe be made with a double, triple, &c. quantity of quickſilver [c].

Unguentum nervinum.
Nerve-ointment.

Take Male Southernwood,
Marjoram (or Origanum)
Mint,
Penny-royal,
Rue,
Roſemary, of each freſh-gathered, ſix ounces.

Let them be well bruiſed, and boiled in a mixture of five pints of Neats-foot-oil and three pounds of Beef-ſuet, till the moiſture is exhaled. Then preſs and ſtrain out the liquor, and adding to it half a pint of Oil of Bays, make the whole into an ointment [d].

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[c] This is the moſt ſimple mercurial ointment extant in any diſpenſatory. It requires indeed a great deal more labour to extinguiſh the mercury in the lard alone, than when turpentine is joined to it; but the latter, by frequent rubbing, is apt to fret tender ſkins. Some chooſe to ſtiffen this ointment with a fourth part of ſuet, (diminiſhing the lard) which gives it a better conſiſtence for rubbing.

Mercurial ointment of the *hoſpital.*

Take of quickſilver, two ounces; hogs lard prepared, three ounces; ſuet, one ounce. Work them well together.

[d] *Nerve ointment* of the *hoſpital diſpenſatory.*

Take of oil of bays, three pounds; ſuet, two pounds; diſtilled oil of amber, two ounces. Mix them according to art.

Unguentum nutritum.
The ointment called nutritum.

Take of Litharge of Gold,
Vinegar, of each half a pound;
Unripe Oil-Olive, a pint and a half.

Rub them together in a mortar, adding the oil and vinegar alternately by little and little at a time, till the vinegar ceaſes to appear, and the ointment becomes uniform and white.

Unguentum ophthalmicum.
Ophthalmic ointment.

Take of Ointment of Tutty, one ounce and a half;
Saturnine Ointment, half an ounce;
Camphor, half a dram.

Mix, and make them into an ointment, according to art.

This ointment may likewiſe be made with a double, triple, &c. quantity of camphor.

Unguentum populeon.
Ointment of poplar-buds.

Take freſh buds of black Poplar, bruiſed, one pound;
Freſh Hogs Lard, four pounds.

Let them be well mixed together, and kept cloſe covered up in a glazed earthen veſſel, till the following herbs can be gathered:

Hemlock leaves,
Black Henbane,
Garden Poppy,
Nightſhade, of each ſix ounces.

Bruiſe the herbs, and boil them with the lard and poplar buds, over a gentle fire, till the moiſture is exhaled; then ſtrongly preſs out and ſtrain the ointment; and melt in it four ounces of white Wax.

Unguentum roſaceum, vulgo pomatum.
Ointment of roſes, commonly called pomatum.

On any quantity of Hogs Lard cut into ſmall pieces, and placed in a glazed earthen veſſel, pour as much Water as will riſe above it ſome inches; and digeſt them together for ten days, renewing the water every day. Then liquefy the lard in a very gentle heat, and pour it into a proper quantity of Roſe-water; work them well together, and pouring off the water, add ſome drops of Oil of Rhodium.

Unguentum ſambucinum.

Ointment of elder.

Take of the inward Bark of green Elder, and the Leaves of the ſame tree freſh-gathered, of each four ounces. Let them be well bruiſed, and boiled in a quart of Linſeed Oil, till the humidity is evaporated. Having then preſſed and ſtrained out the oil, melt in it ſix ounces of white Wax, ſo as to make the whole into an ointment.

Unguentum ſaturninum, vulgo Balſamum univerſale.

Saturnine ointment, commonly called The univerſal balſam.

Take of Sugar of Lead, two ounces;
White Wax, three ounces;
Olive-Oil, one pint.

To the oil and wax melted together add gradually the ſugar of lead, keeping continually ſtirring them, till, growing cold, they unite into an ointment.

Unguentum tutiæ.

Ointment of tutty.

Liquefy three ounces of White Wax, over a gentle fire, in ten ounces of the beſt Olive-Oil; then gradually ſprinkle in two ounces of Tutty, and one ounce of Calamine-ſtone, continually ſtirring them till the ointment grows cold.

This ointment may likewiſe be made extemporaneouſly, by mixing the calamine and tutty with four times their quantity of freſh butter [e].

Unguentum

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[e] This ointment made with butter, with which it is uſually directed, turns ſo ſoon rancid, as to be improper for an officinal. The college

Unguentum vermifugum.

Ointment againſt worms.

Take Leaves of Lavender-cotton,
Common Wormwood,
Rue,
Savin,
Tanſey, of each freſh-gathered, two ounces.

Bruiſe, and boil them in a mixture of a pint and a half of Olive-Oil and a pound of Hogs Lard, till the aqueous moiſture is evaporated. Then preſs out and ſtrain the liquor; melt in it three ounces of Yellow Wax; and afterwards add

Ox-gall,
Succotrine Aloes, of each one ounce and a half;
Coloquintida,
Worm-ſeed, of each one ounce.

Boil and ſtir them together, ſo as to make an ointment.

The aloes, coloquintida and wormſeed, ought to be previouſly reduced into a very ſubtile powder.

college have therefore directed two ways of making it; the former for the ſhops, which if ſweet Florence oil be employed, is inoffenſive to the eyes. Thoſe who chooſe it with butter, may order the latter to be freſh made, in extemporaneous preſcription.

SECTION XVIII.

PLASTERS.

Emplaſtrum adhæſivum.
Adhæſive plaſter.

TAKE of ſimple Diachylon plaſter, two pounds [a];
Burgundy Pitch, one pound.
Melt them together, ſo as to make a plaſter.

Emplaſtrum anodynum.
Anodyne plaſter.

Take of White Reſin, eight ounces;
Tacamahacca in powder,
Galbanum, of each four ounces.
Melt them together, and add
of Cummin-ſeeds, powdered, three ounces;
Black Soap, four ounces.
Make the whole into a plaſter, according to art.

Emplaſtrum antihyſtericum.
Antihyſteric plaſter.

Take of Galbanum twelve ounces;

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[a] Inſtead of the ſimple diachylon plaſter, the hoſpital diſpenſatory orders common plaſter.

Common plaſter of the *Hoſpital.*

Take of litharge prepared, three pounds; oil of olives, ſix pounds. Boil them up to a due conſiſtence.

Wax plaſter of the *Hoſpital.*

Take of yellow wax, four pounds; white reſin, two pounds; ſuet, a pound and a half. Melt them together.

Tacamahacca in powder,
Yellow Wax, of each ſix ounces;
Aſa fœtida,
Cummin-ſeed in powder,
Venice Turpentine, of each four ounces.
Mix, and make them into a plaſter, according to art.

Emplaſtrum cephalicum.
Cephalic plaſter.

Take of Yellow Wax, three ounces;
White Reſin,
Tacamahacca, each two ounces;
Myrrh,
Caſtor, each two drams;
Venice Turpentine, three ounces;
Diſtilled Oil of Lavender,
Amber, each one dram.

Add the diſtilled oils to the other ingredients previouſly made into a plaſter, and grown almoſt cold.

Emplaſtrum de cicuta cum ammoniaco.
Plaſter of hemlock, with gum ammoniacum.

Diſſolve eight ounces of Gum Ammoniacum in a ſufficient quantity of Vinegar of Squills, and add to the ſolution four ounces of the Juice of Hemlock-leaves. Paſs the liquor through a ſtrainer, and afterwards boil it down to the conſiſtence of a plaſter.

Emplaſtrum defenſivum.
Defenſive plaſter.

Take Juice of Shepherds-purſe,
Knot-graſs,
Horſetail,
Milfoil,
Plantane,
Greater Houſeleek,
Common Nightſhade,
Greater Comfrey, of each half a pint;
Olive-Oil, three pints;
Hogs Lard, two pounds;

Litharge of Gold, two pounds and a half;
Red Lead, half a pound.

Boil them till they come almoſt to the conſiſtence of a plaſter; then mix in

Yellow Wax,
White Reſin, of each four ounces.

When theſe are liquefied, add

Olibanum,
Venice Turpentine, of each four ounces;
Powdered Bole Armenic, one pound;
Comfrey-roots,
Granate-peels,
Balauſtines,
Maſtich,
Dragons-blood,
Red Saunders, of each two ounces.

Mix, and make the whole into a plaſter, according to art.

This plaſter may likewiſe be made without the juices [b].

Emplaſtrum diachylôn ſimplex.
The ſimple diachylon plaſter.

Take of Oil of Mucilages, four pints;
Litharge of Gold, a pound and a half.

Boil them into a plaſter.

Emplaſtrum diachylôn cum gummi.
Diachylon plaſter with gums.

Take of Oil of Mucilages, two quarts;
Litharge of Gold, two pounds.

Boil them to the conſiſtence of a plaſter, to which add

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[b] *Defenſive plaſter* of the *Hoſpital Diſpenſatory.*

Take of litharge prepared, two pounds; oil-olive, four pounds; boil them almoſt to the conſiſtence of a plaſter, in which liquefy ſix ounces of yellow wax, and four ounces of olibanum. Then add ſix ounces of bole armenic prepared; two ounces of dragons-blood in powder; and four ounces of Venice turpentine.

Gum ammoniacum,
Galbanum,
Venice Turpentine,
Yellow Wax, of each half a pound.

Make them into a plaſter according to art [c].

Emplaſtrum diapalmæ dictum.
The plaſter called diapalmæ.

Take of Litharge of Gold,
Olive-Oil, each three pounds;
Hogs Lard, two pounds.

Boil theſe ingredients together, and ſtir them till the mixture has acquired the due conſiſtence of a plaſter.

Emplaſtrum epiſpaſticum.
Bliſtering plaſter.

Take of Melilot-plaſter,
Burgundy Pitch, each eight ounces;
Venice Turpentine, three ounces;
Cantharides, five ounces.

Reduce the cantharides to a very ſubtile powder, and add them to the other ingredients previouſly melted together, ſo as to make the whole into a plaſter, according to art [d].

Emplaſtrum epiſpaſticum compoſitum.
Compound bliſtering plaſter.

Take of Burgundy Pitch, ten ounces;
Yellow Wax, four ounces;
White Reſin, two ounces.

Melt them together, and add,
of Venice Turpentine, eighteen ounces.

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[c] *Gum-plaſter* of the *Hoſpital.*

Take of palm--oil, four pounds; litharge prepared, one pound and a half. Boil them almoſt to the conſiſtence of a plaſter; then add of gum ammoniacum and galbanum, each half a pound.

[d] *Epiſpaſtic plaſter* of the *Hoſpital.*

Take of Burgundy-pitch, twenty ounces; Venice turpentine, cantharides in powder, each ſix ounces.

When the whole is liquefied, ſprinkle in the following ingredients, firſt powdered and mixed together, keeping conſtantly ſtirring the matter;

of Muſtard-ſeed,
Black Pepper, each one ounce;
Verdigreaſe, two ounces;
Cantharides, twelve ounces.

Make the whole into a plaſter, according to art.

Both the bliſtering plaſters are to be kept in oiled bladders.

Emplaſtrum e meliloto.

Melilot-plaſter.

Boil ſix pounds of Melilot, freſh gathered and previouſly well bruiſed, in three pounds of melted Beef-Suet, till the Herb is almoſt criſp. Strongly preſs out the Suet, and add to it eight pounds of white Reſin, and four pounds of yellow Wax. Boil them a little together, ſo as to make them into a plaſter.

Emplaſtrum mercuriale.

Mercurial plaſter.

Melt a pound and a half of the Diachylon plaſter [e] with gums; and having taken it from the fire, add eight ounces of Quickſilver, one ounce of Venice Turpentine, and an ounce and a half of liquid Storax, which ſhould be previouſly ground together in a mortar untill perfectly mixed, and the quickſilver ceaſes to appear.

Emplaſtrum de minio ſimplex.

Simple red-lead plaſter.

Take of Red lead, one pound;
Oil of Olives, a pint and a half;
Vinegar, half a pint.

Boil them over a gentle fire, until they unite into a plaſter.

Emplaſtrum de minio cum ſapone.

Red-lead plaſter with ſoap.

This is made by adding to the foregoing plaſter taken from

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[e] Gum-plaſter is ſubſtituted to diachylon in the *Hoſpital Pharmacopœia.*

from the fire as ſoon as the humidity is evaporated, and whilſt hot, half a pound of Spaniſh Soap, cut into thin ſlices; ſtirring the whole ſtrongly together, until the ſoap is diſſolved, and a plaſter formed, according to art [f].

Emplaſtrum oxycroceum.
The plaſter called oxycroceum.

Take of Yellow Wax, one pound;
Pitch,
Galbanum, each half a pound.
Melt them over a gentle fire, and then add
of Venice Turpentine,
Myrrh,
Olibanum, each three ounces;
Saffron, two ounces.
Make them into a plaſter, according to art.

Emplaſtrum ſtomachicum.
Stomach plaſter.

Take of Yellow Wax, eight ounces;
Tacamahacca in powder, four ounces;
Melt them together, and add of
Venice Turpentine, ſix ounces;
Bay-berries in powder, two ounces;
Cubebs in powder, one ounce;
Expreſſed Oil of Mace, one ounce and a half;
Diſtilled Oil of Mint, two drams.
Make them into a plaſter, according to art [g].

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[f] *Soap-plaſter* of the *Hoſpital.*

Take of gum-plaſter, three pounds; white ſoap ſliced, half a pound. Melt the plaſter, and mix into it the ſoap.

[g] *Stomach-plaſter* of the *Hoſpital.*

Take of yellow wax, eight ounces; tacamahacca in powder, palm-oil, each four ounces; melt them together, and add of cloves in powder, two ounces; expreſſed oil of mace, one ounce and a half. Mix, and make them into a plaſter, which is to be moiſtened, when freſh ſpread, with ſome drops of diſtilled oil of mint.

Emplaſtrum volatile.
Volatile plaſter.

Beat an ounce of Venice Turpentine in a mortar, pouring on it by little and little the ſame quantity of Spirit of Sal Ammoniac. When they are thoroughly mixed, throw in by degrees half an ounce of Tacamahacca in powder, and mix the whole well together.

GENERAL RULES *for making* OINTMENTS *and* PLASTERS.

I. The ointments and plaſters, in which plants are ingredients, are to be boiled till the herbs are almoſt criſp, taking care to prevent their contracting a black colour. After ſtraining, they are again to be ſet on the fire, that all the humidity may exhale. The plants therefore ought to be freſh-gathered, juicy, and well bruiſed, unleſs they are ordered otherwiſe.

II. The metallic powders are to be boiled firſt with the oils and fat ingredients, till they are duly united: But plaſters require the addition of ſome water, till they have acquired a due conſiſtence. Such gums as are readily ſoluble, powders, and alſo turpentine, are to be added towards the end of the operation.

III. Neither ointments or plaſters are all of the ſame thickneſs; ſome compoſitions of a middle conſiſtence deſerve the name of cerates. But as the manner of compounding all of them is various, we have ſubjoined to moſt of the articles particular directions.

SECTION XIX.

CATAPLASMS.

Cataplaſma diſcutiens.
Diſcutient cataplaſms.

TAKE of Bryony-roots, two ounces;
Common Orrice-root, one ounce;
Camomile-flowers,
Elder-flowers, of each half an ounce.

Boil them in a ſufficient quantity of Water, till they become tender, and having bruiſed the magma, add to it of

Gum Ammoniacum, diſſolved in vinegar, half an ounce;
Crude Sal ammoniac, two drams;
Camphorated Spirit of Wine, one ounce.

Mix and make them into a cataplaſm.

Cataplaſma ſuppurans.
Suppurating cataplaſm.

Take of White Lily (or Marſhmallow) roots, four ounces;
Fat Figs, one ounce.

Boil them in a ſufficient quantity of Water, till they grow tender; then bruiſe, and add to them

of Raw Onions bruiſed, ſix drams;
Galbanum, diſſolved in the Yolk of an Egg, half an ounce;
Baſilicon Ointment,
Oil of Camomile, each one ounce;
Linſeed-meal, as much as is ſufficient.

Mix them into a cataplaſm, according to art.

Sinapiſmus

Sinapiſmus ſimplex.
The ſimple ſinapiſm.

Take of Muſtard-ſeed, in powder,
Crumb of Bread, each equal parts;
Strongeſt Vinegar, as much as is ſufficient.
Mix them together.

Sinapiſmus compoſitus.
Compound ſinapiſm.

Take of Muſtard-ſeed in powder;
Crumb of Bread, each two ounces;
Garlick bruiſed, half an ounce;
Black Soap, one ounce;
Strongeſt Vinegar, as much as is ſufficient.
Mix and make them into a cataplaſm, according to art.

CHEMICAL MEDICINES.

CLASS THE FIRST.

Chemical Preparations of Vegetables.

SECTION I.

DISTILLED OILS[a].

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[a] The chemiſts diſtribute the oils obtained by diſtillation from vegetable matters, into two claſſes. The firſt contains ſuch as keep the ſmell, and ſometimes the taſte, of the ſubject from which they were drawn: theſe are uſually called *Eſſential*; ſeveral of theſe oils, ſome from ſpices in particular, contain in an eminent degree all the medical virtue of the plant; others, as that of wormwood, have it only in part. Eſſential oils are generally drawn along with water, though ſome of the more odoriferous reſinous juices yield theſe kinds of oils in tolerable perfection, if diſtilled alone with a very gentle heat.—The ſecond claſs takes in thoſe oils which have little or no reſemblance of the original; but which are ſo altered from the treatment they have undergone, as to appear to the ſenſes the ſame, and have one common burnt ſmell or taſte, whence they are called *Empyreumatic*. Although theſe oils ſhould poſſibly, upon a ſtrict examination, be found to differ from one another in ſome reſpects, yet as their medical virtues are generally thought to be ſimilar, and as the ſhops have been long accuſtomed to make one ſupply the place of all, the college of *Edinburgh* have prudently retained only one, drawn from a ſuitable cheap ſubſtance, and thus prevent putting a groſs deceit upon the patient, and avoid giving any countenance to ſophiſtications.

Oleum abſinthii.
Oil of wormwood.

TAKE of Wormwood [b], gently dried [c] in the ſhade and cut in pieces, what quantity you pleaſe;

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[b] It has been particularly remarked of this plant *, that it yields a larger quantity of thin, limpid, eſſential oil, in wet ſeaſons than in drier ones, which ſeem beſt ſuited to other plants deſigned for diſtillation. Some vegetables, balm for inſtance, give out a conſiderable portion of oil in great droughts, when the plant to common appearance does not ſeem to promiſe near ſo well as that of the growth of moiſter ſoils and rainy ſeaſons, which nevertheleſs affords very little or no oil at all, however ſkilfully the exſiccation, maceration and diſtillation may be conducted.

[c] It has been obſerved by the moſt expert in chemical pharmacy †, that a conſiderably larger quantity of oil may be obtained from flowers and herbs, after they have been expoſed for ſome time to the action of a dry air, in a ſhady place, than can poſſibly be got from them, if they are, immediately after being gathered, either macerated or committed to the ſtill: The reaſon of which ſeems to be this, while the plant is turgid, and full of aqueous juice, the oily particles are ſo finely divided, as to be blended and intimately united with it; whence, upon the watery part gently exhaling, the oil collects into ſenſible moleculæ, no longer miſcible with an aqueous fluid. To which may be added, that the gentle exſiccation here directed (which muſt by no means be continued too long, otherwiſe the flavour and colour of the oil will be injured) perfectly elaborates, and brings the juices to their due ſtate of maturity. Upon this circumſtance, the ſucceſs of the proceſs greatly depends, as is well known to thoſe who have imprudently diſtilled ſuch vegetables for their oils, as were either the growth of very moiſt places, the product of wet, unfavourable ſeaſons, or gathered before they had arrived to a proper degree of maturity.

* Geoffr. *Mem. de l'Acad. roy. pour l'ann.* 1721.

† *Hoffm. Obſervat. Phyſico-Chym. Lib.* 1. *obſ.* 1.

Water,

Water, as much as will conveniently keep
the herb afloat [d];
Sea-ſalt [e], as much as will give the liquor
a ſlight ſaline taſte.

Let them ſteep together for the ſpace of eight days [f]; then commit them to the ſtill, applying a ſomewhat greater heat than what is neceſſary for the diſtillation of ſimple waters. The oil will come over along with the water, from which it is to be ſeparated [g] according to art.

Oleum hyſſopi.

Oil of the plant hyſſop [h].

Oleum

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[d] The proportion which the water ought to bear to the vegetable cannot be exactly determined: Particular regard muſt be had herein to the capacity of the body of the ſtill. If the whole plant, moderately dried, be uſed, or the ſhavings of woods, as much of either may be put into the ſtill, as, lightly preſſed, will occupy one half of its cavity, and as much water may be added, as will ariſe up to two thirds of its height. But it is impoſſible to give rules which ſhall exactly quadrate with every ſubſtance that is here directed to be diſtilled for its oil: A great deal muſt ſtill be left to the operator. It is ſufficient to obſerve in general, that the water and ingredients all together, ſhould never take up more than three fourths of the veſſel; that there be liquor enough to prevent an empyreuma, and yet not ſo much as to be too apt to boil over into the recipient.

[e] The ſea-ſalt ſeems here directed to prevent the putrefaction which ſo long a maceration as eight days would ſubject the matter to.

[f] Half the time here ordered, or even twenty-four hours if a digeſting heat be applied, is ſufficient fully to unlock the texture of the wormwood, ſo as to make it yield all its eſſential oil with great eaſe.

[g] As a large quantity of water comes over along with the oil, a particular contrivance is uſually employed to ſeparate them, as they run together from the noſe of the ſtill. This is effected by means of an inſtrument made either of glaſs or pewter, and known by the name of a ſpout receiver. See *Pract. Chemiſtry*, plate 5.

[h] The oil of hyſſop, diſtilled from the whole plant in flower, freſh-gathered, is of a yellowiſh colour, with a ſlight caſt of green; in

Oleum majoranæ.
Oil of the plant marjoram [i].
Oleum menthæ.
Oil of the plant mint.
Oleum origani.
Oil of the plant origanum.
Oleum pulegii.
Oil of the plant penny-royal [k].
Oleum roriſmarini.
Oil of the plant roſemary [l].
Oleum rutæ.
Oil of the plant rue [m].
&c.

Oleum

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in keeping it turns browniſh. The ſmell of this oil moſt exactly reſembles that of the original herb.

[i] Oil of marjoram is of a yellow colour, unleſs diſtilled with too great a heat, which turns it reddiſh; this colour it likewiſe acquires in keeping. *Teichmeyerus* * ſays, that this oil becomes more fragrant than at firſt, by diſtilling it a ſecond time, when it leaves a conſiderable portion of groſs reſinous parts at the bottom of the diſtilling veſſel. The ſmell of this oil, though ever ſo carefully drawn, is not near ſo agreeable as that of the herb itſelf.

[k] This plant affords a larger quantity of oil than hyſſop. It is pretty much of the ſame colour and appearance with it, and retains, in great perfection, the ſmell of the herb.

[l] The oil diſtilled from the tops of roſemary, freſh-gathered, in full flower, without any previous maceration, with an exceeding gentle and well managed heat, is very light and thin, almoſt as pale and colourleſs as water, and of very great fragrancy. If the whole plant be uſed, a maceration for three or four days employed, and the diſtillation conducted with a vehement fire, the oil which comes over will be thicker, of a yellow colour, and its odour not near ſo agreeable as the foregoing.

[m] This plant yields very little oil, though it is probable that if it were gathered when the flowers begin to fall off (which *Teich-*

* *Inſtitut. Chem.* p. 65.

meyerus

Oleum flor. chamæmeli.
Oil of camomile-flowers [n].

Oleum flor. lavendulæ.
Oil of lavender-flowers [o].
&c.

Oleum

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meyerus * obſerves to be the beſt time) and its viſcous texture previouſly unlocked by fermentation, as is directed hereafter in the proceſs for the oil of juniper-berries, a larger quantity might be obtained. *Hoffmann* † deſcribes this oil as of a brown colour, an acrid taſte, and a penetrating ſmell. But the colour and ſmell of theſe oils depends ſo much upon the ſeaſon, the management of the operator, the different circumſtances of the plant itſelf, the age of the oil, and the manner in which it has been kept, that little can be drawn from them. Thus from this very plant, diſtilled while green, we have obtained an oil of a yellowiſh colour, which in time indeed became brown.

[n] Camomile flowers yield an extremely ſmall quantity of oil.—— This oil retains in great perfection the peculiar ſmell of the flowers, and is, when freſh drawn, of a moſt elegant ſky-blue colour, which gradually decays by age, and turns at length into a dark yellow, eſpecially if great care is not taken to keep the bottles in which it is preſerved, always full, and cloſe ſtopt, ſo as perfectly to exclude the air. *Hoffmann* ‡ obſerves, that the delicate colour of this oil affords an infallible criterion of its genuineneſs; for if the colour remains for above a year, it is a certain ſign of the oils being adulterated. This obſervation is certainly juſt, though not ſo uſeful as could be wiſhed, the length of time required for making the experiment, being a ſtanding objection to it. We ſhall therefore refer the reader to the general remark on diſtilled oils at the end of this ſection, for ſhorter and more practicable methods of diſcovering abuſes in theſe kinds of preparations.

[o] To gain this excellent oil with the greateſt advantage, both with regard to the quantity and quality, the flowers ſhould not be collected

* *Inſtitut. Chem.* p. 62.

† *Obſ. Chemico-Phyſ.* lib. i. obſ. 1.

‡ *Ibid.*

Oleum ſeminum aniſi.

Oil of aniſeed [p].

Oleum

till they are arrived at the utmoſt ſtate of perfection, juſt before they begin to fall off ſpontaneouſly, when the ſeed begins to ſhew itſelf; for at this time they yield not only almoſt thrice as much oil (according to the obſervations of *Teichmeyer* * and *Geoffroy* †) but the oil is far more fragrant than that diſtilled from the whole plant, or the buds alone, before the flowers are fully opened. The college of *Edinburgh* direct only the flowers to be diſtilled, and with great judgment; for the reſt of the plant affords ſcarce any eſſential oil, and therefore takes up room in the diſtilling veſſel to no manner of purpoſe. The flowers may be eaſily ſeparated from the plant, by drying it a little, and gently beating it: they ſhould be immediately put into the ſtill, and a ſuitable quantity of water being added, diſtilled with a gentle and well regulated fire. Too great a heat is carefully to be avoided in this proceſs; for this will not only change the colour of the oil, but likewiſe make a diſagreeable impreſſion on its ſmell.

The oil of lavender, when in its utmoſt perfection, is very limpid, of a pleaſant yellow colour, extremely odoriferous, and poſſeſſes in an eminent degree the peculiar ſmell generally admired in the flowers.

[p] The oil drawn by diſtillation from aniſeeds, moſt exactly reſembles the ſeeds both in taſte and ſmell, and is not ſo pungent and hot as moſt other eſſential oils are. This oil coagulates even when the air is not ſenſibly cold: Mr *Geoffroy* ‡ has remarked, that it loſes this property by long keeping.

With regard to the choice of this and all other ſeeds deſigned for diſtillation, care ſhould be taken, that they are not mixed with ſuch as have loſt their ſmell, or been otherwiſe damaged; that they are fully ripe, dry, and not too long kept——With regard to the proceſs for obtaining theſe oils, the ſeeds ſhould be previouſly bruiſed, and being put into the ſtill with five or ſix times their quantity of water, digeſted for a few hours with a gentle heat, when the diſtillation may

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* *Ubi ſupra.*

† *Mem. de l'acad. roy.* 1721.

‡ *Ibid. & ann.* 1728.

be

Oleum ſeminum carvi.
Oil of caraway-ſeed.

Oleum ſeminum cumini.
Oil of cummin-ſeed.

Oleum ſeminum fœniculi.
Oil of fennel-ſeeds,
&c.

Oleum corticum limonum.
Oil of lemon-peel[q],
&c.

Oleum caryophyllorum.
Oil of cloves[r].

Oleum

---

be performed in the common manner. But it behoves the operator not to be over ſolicitous in keeping the water in the refrigeratory too cool: he ought rather to let it grow ſomewhat warm, particularly towards the end of the proceſs; otherwiſe the oil, from its known property of coagulating in the cold, may ſo ſtop up the worm, as to endanger blowing off the head of the ſtill, at leaſt a conſiderable quantity of oil will remain in it.

[q] This is one of the lighteſt eſſential oils we have, perfectly limpid, and almoſt colourleſs: its ſmell is very near as agreeable as that of the freſh peel. Our chemiſts rarely draw this oil, it being imported from abroad, in great perfection, at a much cheaper rate. Nevertheleſs, care ſhould be taken in chuſing this commodity; for the foreign ſorts differ greatly in goodneſs; and though it can hardly be ſuppoſed worth the while of the maker to adulterate it, ſome of the venders ſeem to have thought otherwiſe.

[r] This oil, when freſh drawn, is limpid, and perfectly colourleſs; and retains theſe properties, if the bottles containing it are kept always full, and cloſely ſtopt; but if theſe precautions are not obſerved, it acquires in time a yellowiſh colour, which by degrees grows deeper and deeper. This oil readily ſinks in water, and is ſo extremely pungent and acrimonious, as not to be ſafely taſted without great care: its ſmell very much reſembles that of the fruit it is obtained from.

As

Oleum cinnamomi.
Oil of cinnamon.

Oleum macis.
Oil of mace.

Oleum nucis moſchatæ.
Oil of nutmegs.

Oleum ligni ſaſſafras.
Oil of ſaſſafras-wood[s],
&c.

All

As this oil is very ponderous, a ſomewhat briſker fire is neceſſary in its diſtillation, than for any of the foregoing: The ſtill employed likewiſe ſhould be low, its mouth wide, and the head ſo contrived, as not to ſuffer any part of the oil which may condenſe againſt its ſides, to ſlide down into the body again, but convey it immediately into the recipient. See a deſcription of a commodious apparatus for this purpoſe, and ſundry uſeful cautions for conducting theſe kinds of proceſſes to advantage, in *Pract Chem.* pl. 5. fig. 1. 6. and pag. 253——267.

The excellent *Hoffmann* * has given us ſeveral practical hints and remarks, with regard to the diſtillation of this oil in particular, which highly deſerve being carefully attended to. He directs the cloves to be firſt powdered, and then digeſted for five or ſix days in a gentle heat, with at leaſt ſix times their quantity of water, and a little common ſalt, to prevent putrefaction, which, as he obſerves, ſpices infuſed in water are particularly ſubject to. He cautions the operator againſt putting too much into the ſtill at once; and directs the water which comes over along with the oil, to be ſeparated and poured back on the reſiduum, and the diſtillation repeated a ſecond or third time: by this means ſometimes will be obtained near one third of the quantity of oil afforded by the firſt diſtillation, though the product of theſe laſt operations will be conſiderably groſſer, and more ponderous.

[s] Saſſafras affords on diſtillation a very elegant oil, which is the moſt ponderous of all the known eſſential oils: its ſmell exactly re-

* *Obſerv. Phyſico-Chym. Lib.* i. *Obſ.* 3.

ſembles

All theſe oils are to be diſtilled in the ſame manner as directed for that of wormwood.

Seeds and ſpices ought to be bruiſed before maceration.

All the vegetables which are proper ſubjects for diſtillation, give out their oil upon being treated in the ſame manner, only the length of the maceration is to be varied according to the difference of their texture and compactneſs. The moſt tender ſubjects ſcarce require any ſteeping; thoſe of a ſoft and looſe texture may be ſteeped for two or three days; but the more viſcous ones require as many weeks. The longer the maceration is intended to be continued, the greater ſhould the quantity of ſea-ſalt be; in the room of which, Nitre, or any fixed acid ſpirit may be ſubſtituted [t].

The

ſembles that of the wood. *Hoffmann* * is full of the virtues of this oil, and makes a pretty ſingular remark, that if the decoction which remains after the diſtillation of it be paſſed through a ſtrainer, and inſpiſſated with a gentle heat, an extract may be obtained of a bitteriſh ſubaſtringent taſte, which proves a medicine of no contemptible virtue. He aſſures us, that he has often given it with remarkable ſucceſs, in the quantity of a ſcruple at a time, to ſtrengthen the tone of the viſcera in cachexies, as alſo in the decline of intermittent fevers, and in hypochondriacal ſpaſms.

[t] The ſea-ſalt, nitre, and fixed acid liquor, one of which are here directed to be added to the water wherein the ſubject deſigned for diſtillation is to be macerated, ſeem principally intended to prevent the putrefaction which moſt of theſe ſubſtances are liable to, during the long time of maceration preſcribed. A very ſmall proportion of theſe matters may be of ſome little uſe, though we ſhould conceive, that ſuch additions as prohibit this propenſity of the ingredients to run into putrefaction, hinder the reſolution here aimed at. It is in the power of the operator, when he perceives the proceſs coming near this pitch, to put a ſtop to it, by immediately proceeding to diſtillation. By this means, the whole affair will be finiſhed

* *Ibid.* Lib. i. Obſ. 3.

in

The water which ariſes along with the oil, in the diſtillation of any of theſe ſubſtances, may be reſerved apart, and advantageouſly employed in future diſtillations of the ſame ſubject[u].

Oleum baccarum juniperi.

Oil of juniper-berries.

Take of Juniper-berries, bruiſed[x], what quantity you pleaſe ;

Half

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in a little time, with at leaſt equal advantage in every other reſpect, provided the manual operations of pounding, raſping, and the like, which are equally neceſſary in all caſes, be ſcientifically complied with.

Some chemiſts pretend, that by the addition of acid ſpirits, &c. they have been enabled to gain more eſſential oil from certain vegetable ſubſtances, than can poſſibly be got from them without ſuch aſſiſtance. But experiments made on purpoſe to ſettle this point, ſeem to prove the contrary. This we have conſtantly found to be true, that where we have had any reaſon to think our yield greater than expected, the quality of the oil was in proportion debaſed.

[u] The water employed in this proceſs, as a medium for the fire to act through, and as a vehicle for the eſſential oil, takes up always a certain portion of the oil, as is evident from the ſmell, taſte and colour, which it acquires ; and conſequently the produce is by this means defrauded of its due account. But as water retains only a certain quantity thereof, inſtead of common water, ſuch as has been already uſed, and which has almoſt ſaturated itſelf, is uſefully employed in a ſecond, third, or any future diſtillation of the ſame ſubject, as growing always leſs and leſs capable of injuring the product.

Some[*] recommend the water which remains in the ſtill to be uſed a ſecond time ; but this ſhould ſeem leſs proper, as being ſaturated only with ſuch parts of the vegetable, as are not capable of riſing in diſtillation, and which ſerve only to impede the action of the water conſidered as a menſtruum, and to endanger an empyreuma.

[x] Mr. *Geoffroy*, in his excellent memoirs upon the ſubject of eſſential oils[†], among a variety of uſeful remarks, takes notice, that the

[*] *Boerh. Elem. Chem.* proceſſ. 29.

[†] *Mem. de l'Acad. pour l'ann.* 1721 and 1728.

Half that quantity of Water;
A little Yeaſt.

Set them by to ferment for ſome days, taking care not to continue the fermentation too long. Then add
of Water, a ſufficient quantity,
and diſtill the whole in an alembic. The oil is to be ſeparated from the water, according to art [y].

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oil of juniper-berries is partly contained in veſicles ſpread through the ſubſtance of the fruit, and partly in little cells or canals contained in the ſeeds which are ſurrounded with the pulp; and that when the berry is dry, and the oil hardened into a reſinous ſubſtance, it becomes, upon the ſeeds being broken, viſible, in little, tranſparent, oval drops.

From theſe obſervations, this judicious chemiſt informs us, that in order to obtain this particular oil, we ought, previous to the diſtillation, to bruiſe the berry thoroughly, ſo as to break the ſeeds, and entirely lay open the oily receptacles. The juſtneſs of this concluſion appeared to us directly from experiment; for having ſlightly bruiſed a quantity of choice juniper-berries, and digeſted them for twelve hours in a gentle heat, with a ſuitable quantity of water, we proceeded to diſtillation, and obtained ſo very inconſiderable a proportion of oil, as ſcarce to deſerve ſeparating from the water. But upon carefully pounding (which is no eaſy matter) the magma that remained at the bottom of the ſtill, which we had ſeparated from the more liquid part, until the ſeeds were not to be diſcerned, ſo notable an alteration, in point of ſmell, ſoon grew perceptible, as ſeemed to warrant the ſucceſs which followed. We therefore returned to the ſtill the water which came over, and the whole matter which remained after the firſt operation, and proceeded directly to diſtillation, when we obtained about five drams of oil from the ſame juniper-berries which by our firſt treatment did not afford ſo many drops.

[y] It may be not amiſs in this place to take notice of what remains in the ſtill, after the oil is drawn from the berries, ſince it promiſes to be a medicine of great utility, and in many caſes is perhaps preferable to the oil or berry itſelf. *Hoffmann* * is expreſly of this opinion, and ſtrongly recommends it in debility of the

* *Ibid.* Lib. i. Obſ. 3.

In the ſame manner are obtained

Oleum baccarum lauri.
Oil of bay-berries,
&c.

Oleum herbæ ſabinæ.
Oil of the plant ſavin [z],
&c.

and the oils of all ſuch ſubſtances as are of a viſcous and compact texture.

Oleum terebinthinæ.
Oil of turpentine.

Take of Turpentine, melted over a gentle fire, any quantity at pleaſure.

Pour it into a glaſs retort, of which it may fill one half; a receiver being then fitted on, the diſtillation may be conveniently performed in ſand: a gentle heat is to be at firſt applied, upon which an acid ſpirit will come

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ſtomach and inteſtines, and ſays it is particularly of ſervice to old people who are ſubject to theſe diſorders, or labour under a difficulty with regard to the urinary excretions. It may, after ſtraining, be gently exhaled to the conſiſtence of a rob, which fits it for keeping: it is of a dark browniſh yellow colour, and a balſamic ſweet taſte, with a little of the bitter, though it will be more or leſs ſo, according as the ſeeds in the berry have been more or leſs bruiſed. Hence Mr. *Geoffroy* * rightly directs, that when the rich, aromatic, honey-like juice of the juniper-berry is the part ſolely wanted, the freſh berry ſhould be committed to the preſs, without any previous bruiſing at all.

[z] *Hoffmann* † obſerves, that ſavin yields a larger proportion of eſſential oil than any other vegetable, the turpentine tree alone excepted. The young ſhoots of this plant are to be preferred, for diſtillation, to ſuch as are older, the more woody parts affording little or no oil.

* *Ubi ſupra.*

† *Obſervat. Phyſico-Chem.* Lib. i. Obſ. 1.

come over, and on gradually increaſing the fire, a limpid oil (commonly called the ethereal ſpirit of turpentine;) at length, a yellow oil will ariſe. In the bottom of the retort, there remains *a reſinous maſs called* Colophony, which if ſtill further urged with ſucceſſive degrees of heat to the higheſt, gives firſt a red oil, and afterwards a darker coloured one, which ſinks through the other liquors, to the bottom of the recipient [a].

Gum Ammoniacum,
Caranna,
Elemi,
Galbanum,
Sagapenum,
Styrax calamita,
Liquid ſtorax,
Tacamahacca,
&c.

being diſtilled in the ſame manner, yield an acid liquor, and an empyreumatic oil [b].

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[a] The diſtillation of turpentine in glaſs retorts is a very tedious proceſs, attended with a good deal of danger, and anſwers no manner of uſeful purpoſe, as has been already obſerved by the author of the *Pharmacop. Reform.* * The oil which ariſes at firſt has no more propriety to the appellation of ethereal, than the much cheaper one obtained by the addition of water in a common ſtill. The ſpecific gravity of both ſeemed upon trial to be pretty nearly the ſame; nor did they ſmell or taſte conſiderably different from each other.——As for the red and dark-coloured oil, they are at preſent in no manner of eſteem, and become almoſt ſtrangers to the ſhops.

[b] It is ſurpriſing, that the above vegetable productions ſhould keep a place here, ſince the uſe of their empyreumatic oils is generally exploded. Several of them, diſtilled in an alembic, with a ſuitable quantity of water, after the manner directed for turpentine, afford oils of great fragrancy, and which might undoubtedly be applied to good uſe as medicines, where the original reſinous juice might not be ſo convenient or ſerviceable.

* *Page* 71.

Turpentine,

Turpentine, diſtilled in an alembic, with four times its quantity of water, affords a limpid oil. The colophony which remains at the bottom of the diſtilling veſſel, may, after evaporating the water, be either kept for uſe in its proper form, or diſtilled in a retort, when it yields a yellow, a red, and a blackiſh red oil.

Oleum guaiaci.
Oil of guaiacum.

Take of Chips of Guaiacum-wood, what quantity you pleaſe.

Put them into an earthen long-neck, or a glaſs retort, and diſtill either in a ſand-bath or an open fire, increaſing the heat by degrees. At firſt an acid liquor will come over, afterwards a light red oil; and at length, in the utmoſt degree of fire, a thick, black oil, which ſinks through the other liquors, to the bottom of the receiver [c].

Oils may be obtained, after the ſame manner, from every kind of wood.

Flores benzoini.
Flowers of benzoine [d].

Take of Benzoine, reduced to powder, any quantity at pleaſure.

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[c] The oil may be ſeparated from the acid liquor, by pouring them both into a glaſs funnel lined with paper, which has been previouſly wetted with water. The aqueous liquor will paſs through, leaving the oil behind in the filtre.

[d] To gain theſe flowers with their due degree of whiteneſs and fragrancy, is a very nice point, and little known, or at leaſt little attended to. The whole ſecret conſiſts in putting but a little benzoine at a time into the ſubliming veſſel; and applying a very gentle and equable degree of heat: a ſhallow earthen pan is a more convenient inſtrument for this purpoſe, than the deep veſſels uſually employed. After one parcel of benzoine has parted with its flowers, it ſhould be taken out before another is put in.

Put

Put it into a glazed earthen pot, and having fitted a conical paper cap to the mouth thereof, apply a gentle heat, ſo as to make the flowers ſublime. Repeat this operation, till the paper becomes foul with oil [e].

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[e] The preparation of theſe flowers is placed at the end of this ſection, probably from the affinity which they bear to eſſential oils, ſome of which they in many reſpects greatly reſemble.

General Remarks on Eſſential Oils.

Eſſential oils in general are not ſo agreeable when juſt diſtilled, nor do they ſo exactly reſemble the original from which they were drawn, as in ſome time after.

Eſſential oils expoſed to the open air for two or three days before they are incloſed in bottles, improve in their odour, and become more clear and tranſparent, a conſiderable quantity of groſs viſcous matter often ſubſiding.

The oil which comes over firſt in diſtillation, is lighter, more limpid and odorous, than that which follows, and conſequently in all reſpects preferable.

Eſſential oils differ greatly, according as the proceſs for obtaining them is more or leſs ſkilfully managed: and are continually changing for the worſe, if not kept from the injuries of the air, in bottles cloſe ſtopt, which ſhould likewiſe be quite filled.

Theſe preparations are very liable to be adulterated; and their adulterations are not diſcovered without great difficulty. The methods propoſed for this end by the pharmaceutical writers *, are attended with a great deal of trouble, or only ſerve to detect the groſſer abuſes: The beſt method yet perhaps known is, to dilute the ſuſpected oil with a large portion of rectified ſpirit, and then to examine it by the taſte and ſmell, comparing it with ſome of known goodneſs. By this means, one may not only diſtinguiſh whether the oil to be examined is mixed with any other; but alſo a judgment may be formed of the degree of goodneſs of the oil when unmixed.

Moſt of the eſſential oils directed to be drawn in the preceding ſection, are pretty much in uſe in the ſhops, and eaſily procurable, in in a tolerable degree of perfection, except the oil of cloves, mace, cinnamon and nutmegs. The diſtilled oil of mace is ſcarce ever called for, and not directed in any officinal compoſition, as far as we can recollect. The other three oils are rarely diſtilled from the ſpices at home, by reaſon of their great price, but uſually imported from Holland, and are generally ſo much adulterated, that it is ſomewhat difficult to meet with ſuch as are at all fit for uſe. It therefore behoves the apothecary to be very circumſpect and careful, with regard to the purchaſe of theſe oils, and rather at all events to draw them himſelf. The author of *Pharm. Reform.* ‡ ſtrongly recommends an eſſential oil drawn from pimento as a cheap ſubſtitute for theſe oils; and we could heartily wiſh, that phyſicians would introduce it in their preſcriptions. Pimento is a cheap ſpice, the product of our own plantations, affords a conſiderable quantity of a very fine oil, which like that of the dearer ſpices ſinks in water, and whoſe flavour is more agreeable than that of cloves, and does not fall far ſhort of that of nutmegs.

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* *Hoffmanni Obſerv: Phyſico-Chem.* Lib. i. Obſ.

Further remarks upon eſſential oils, with a table of the ſpecifick gravity of ſeveral of them, and of the quantity of oil obtained from certain vegetable ſubſtances, may be ſeen in *Pract. Chem.* p. 253—267.

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† *Pract. Chem.* pag. 261.

‡ *Append.* pag.

SECTION

SECTION II.

EXTRACTS and RESINS.

Extractum plantaginis.
Extract of plantane.

TAKE any quantity of the Juice of Plantane. Depurate it, by ſuffering it to reſt till the feces have ſubſided, and then decanting off the clear juice; or paſſing it through a filtre; or clarify it with whites of eggs [a]. Afterwards evaporate the juice in balneo mariæ [b], to the conſiſtence of honey [c].

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[a] *Boerhaave* * has given us ſome general rules with regard to the purification of theſe liquors, which are well worth attending to —— When the feculent part of the juice or liquor is ſo heavy as to fall to the bottom of itſelf, it is ſufficient to let it reſt in a cool quiet place, till it has thus purged itſelf clear, at which time the liquor is to be decanted or poured off from the ſediment by inclination, before it has conceived any heat, or run into fermentation. If the impurities be light, and will not readily ſubſide, ſo as to leave the liquor perfectly clear, it may be depurated by the filter, or by being paſſed ſeveral times through a fine flannel ſtrainer, till it appear clear and tranſparent. When the juice or other liquor deſigned for the ſubject of this proceſs is ſo unctuous, fat and groſs, as not readily to fine itſelf down by ſtanding in a quiet place, or does not eaſily paſs thro' a ſtrainer, it may be clarified by beating it up with the white of eggs, and gently boiling the mixture, till the ſcum which ariſes on the top, begins to break, when the veſſel is to be removed from the fire, and the cruſt being taken off, the remainder is to be paſſed thro' a flannel bag, by which means the ſubject will be made perfectly fine and clear.

* *Elem. Chem.* proceſſ. 3.

In the ſame manner extracts may be made from any acid, cold, juicy, or ſtyptic plant.

Extractum abſinthii.
Extract of wormwood.

Take any quantity of dried Wormwood;
of Water, as much as is ſufficient.

Boil them together, ſupplying freſh water occaſionally, till the herb has given out all its virtue. Then paſs the decoction through a ſtrainer, and afterwards evaporate it, in balneo mariæ, to the conſiſtence of honey [d].

In

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[b] The aqueous part of the juice is too ſtrongly retained by the proper vegetable ſubſtance, to eaſily give way to the gentle heat of a water-bath, ſo that the evaporation proceeds too ſlowly to anſwer any reaſonable diſpatch. It might indeed be ſomewhat forwarded by continually ſtirring the matter, but even with this aſſiſtance, the proceſs would be extremely irkſome and tedious. The apothecaries generally perform this operation over a naked fire: and by this means finiſh it in a reaſonable compaſs of time. And provided the heat be well managed, and the matter, eſpecially when it begins to grow thick, be kept ſtirring, and carefully hindered from ſticking to the bottom and ſides of the pan (which ſhould be broad and ſhallow for this purpoſe) there ſeems to be no great danger of doing any real injury to the medicine by this way of managing the proceſs, particularly as the college direct the juice to be exhaled, no longer than till it has acquired the conſiſtence of honey.

[c] If this, or any of the following extracts ſhould occaſionally be required harder than is directed above, they may be commodiouſly inſpiſſated to any degree of conſiſtence, by putting them into ſhallow tin pans, and expoſing them to the uniform heat of a moderate oven, which acting upon the upper ſurface of the matter, as well as underneath the veſſels, keeps the whole equally liquid, and hence evaporates faſter, and with a far leſs degree of heat than an open fire.

[d] The chemiſts uſually prepare the extract of wormwood from what remains in the ſtill after the diſtillation of the eſſential oil of wormwood.

In the ſame manner are prepared

Extract. rad. gentianæ.
Extract of gentian-roots.

Extract. rad. hellebori nigri.
Extract of the roots of black hellebore [e].
&c.

Extractum centaurii minoris,
Extract of the plant leſſer centaury [f],

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wormwood. And provided the decoction be fully depurated, and the inſpiſſaton duly conducted, this piece of frugality is not to be diſapproved of; ſince whether we catch the exhaling vapour, or ſuffer it to exhale in the air, the extract will be exactly the ſame.

[e] The judgment of the compilers of this diſpenſatory appears all along in the choice which they have made of proper liquors to act as diſſolvents, in a manner ſuitable to the intention of the medicine. Thus it is certain from the experiments of Mr. *Bolduc* [*], that water here directed, is the proper menſtruum for black hellebore; and the extract prepared by its means is a ſafe and powerful cathartic, while the reſinous extract drawn by ſpirit of wine, occaſions great pain and diſorder, without at all anſwering the purpoſes for which this drug is uſually given.

[f] This is the oldeſt extract we have any account of; its preparation is very accurately and circumſtantially ſet down, in a book uſually aſcribed to *Galen, De Virtute Centaureæ*. The author of this treatiſe recommends this extract as a medicine of excellent ſervice in many caſes; and looks upon centaury as a ſpecific againſt the bite of a mad dog, and other venomous animals.

Theſe extracts, which are directed to be prepared from the decoctions of the ſubjects made in a large quantity of water, and depurated by colature through a flannel, are not ſo perfectly pure as could be wiſhed; for ſimple colature, however often repeated, does not compleatly depurate the decoction: if the ſtrained liquor be afterwards boiled away to one half, and then ſuffered to cool, a freſh ſediment, which appears to be merely herbaceous, will fall to the bottom, from which the liquor ſhould be decanted before the evaporation is finiſhed, which may be more conveniently performed in the manner beforementioned, than in the heat of a water-bath.

[*] *Mem. de l'Acad.* 1728.

Extractum flor. chamæmeli.
Extract of the flowers of camomile,
&c.
and the extracts of all fixed aromatics.

Extractum jalappæ.
Extract of jalap.

Take of Jalap-root, very well bruiſed [g], what quantity you pleaſe;
Pour upon it
of rectified Spirit of Wine, as much as will cover the root to the height of four fingers.
In the heat of a ſand-bath, extract a tincture; which being poured off, put to the remaining magma
A ſufficient quantity of Water, and
A little Salt of Tartar [h].

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[g] All ſuch dry vegetable ſubſtances as contain both reſinous and gummy parts, and which are deſigned for making extracts, ſhould, previous to the affuſion of the menſtruum be reduced to exceeding ſmall parts, otherwiſe neither the water or ſpirit will be capable of diſſolving entirely the parts they are deſigned to act upon. This caution, though the reaſon of it is ſufficiently obvious, yet is not duly attended to, which makes the inſertion of it here ſomewhat neceſſary.

[h] In the firſt edition of this diſpenſatory, half a dram, or two ſcruples of fixt alcaline ſalt were directed to be added to each ounce of every kind of extract, in order to keep the compoſition the longer moiſt. The fixed ſalt ſeems here principally intended to promote the action of the water as a menſtruum upon the root; and therefore they are both added together: but water alone is ſufficiently able to extract all the medicinal parts which remain in jalap after ſpirit of wine has duly performed its office. It ſhould ſeem not quite ſo convenient, if the alcaline ſalt be thought an uſeful ingredient, to leave its quantity to be determined at the diſcretion of every compounder, ſince different quantities thereof, will not only alter the doſe of this medicine, but vary its action more than perhaps may be at firſt ſuſpected.

Boil them together for an hour: then paſs the decoction through a ſtrainer; and afterwards evaporate it to the conſiſtence of honey, mixing in therewith, towards the end of the evaporation, the ſpirituous tincture, and keeping them continually ſtirring together, that the whole may be reduced to an uniform maſs [i].

After the ſame manner are to be prepared

Extractum corticis Peruviani.
Extract of Peruvian bark [k].

Extractum

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[i] The moſt commodious way, in all reſpects, of making this extract, is as follows: Upon a pound of jalap in powder, pour about three quarts of rectified ſpirit of wine; then gently boil theſe together, for an hour or two, in a ſmall ſtill placed in a water bath, pouring back ſuch part of the ſpirit as comes over; after which, the menſtruum, loaded with the reſinous parts of the jalap, may be decanted from the feces, and paſſed through an hair ſieve, to prevent any lighter feculencies from being mixed with the tincture. Upon the magma, or reſiduum, pour as much water as you have before uſed of ſpirit; and gently boil them together, over the fire, for about the ſame ſpace of time; after which, the decoction is to be ſtrongly preſſed out, paſſed through a flannel ſtrainer, and being afterwards gently evaporated to the conſiſtence of honey, added to the ſpirituous tincture: the whole is then to be committed to diſtillation in a water-bath, and as much drawn off as that heat will elevate. What remains in the ſtill will be found of a due conſiſtence, and contain the whole purgative virtue of the jalap united in one uniform extract: the ſpirit, which by ſimple evaporation would be loſt, is by this management ſaved, all danger of an empyreuma is avoided, and the proceſs finiſhed in a very ſhort ſpace of time.

This extract is preferable to the crude root; for herein the reſinous and the gummy or ſaline parts are more equably and uniformly intermixed, and leſs of it is ſufficient for a doſe.—If the reader deſires farther directions for making this extract, he may conſult *Pract. Chem.* p. 242.

[k] It has been diſputed which is the beſt way of making the extract of bark, ſo as to retain its whole virtue, without any of the woody

or uſeleſs parts. Some have recommended water alone for this purpoſe; others have employed ſpirit at firſt, and water afterwards. The following experiments were made in order to determine this affair.

A pound of bark, reduced to powder, was boiled for three hours in a gallon and a half of water: the decoction, paſſed through a coarſe ſtrainer, appeared reddiſh and turbid; as it grew cold, it turned yellowiſh, and depoſited a conſiderable quantity of a red ſediment; which being moderately dried on a chalk-ſtone, and digeſted with ſpirit of wine, communicated thereto a deep brown colour, a conſiderable quantity of it nevertheleſs remaining undiſſolved. The vapour which exhaled during the boiling, being catched, ſmelt very ſtrongly of the bark, and had likewiſe a ſlight taſte of it. Upon the magma, or reſiduum, of this decoction, the ſame quantity of water was poured as at firſt, the coction renewed, and this repeated with freſh parcels of water four times, when the feces were found almoſt inſipid. The decoctions being all mixed together, and gently evaporated, gave ſix ounces and a half of a ſoft extract.

A pound of the ſame bark, treated with two quarts of ſpirit of wine, and a gallon of water, after the manner deſcribed in the preceding note upon the extract of jalap, yielded nearly the ſame quantity of extract as in the laſt experiment.

Upon comparing theſe two preparations together, that made with water alone was found much milder and far leſs ſtyptic, than that prepared by ſpirit of wine and water; the latter much more perfectly reſembling the original bark. Upon boiling the firſt extract in water, and afterwards in ſpirit of wine, a conſiderable quantity remained indiſſolvible in either of the menſtruums: the latter treated in the ſame manner ſcarce left any perceptible feces.

From theſe experiments it appears, that the extract prepared with water alone contains ſome of the woody parts of the bark; that its taſte is conſiderably injured, probably from the long decoction which that proceſs requires; that the taſte, and probably the medical virtues of the bark, are better extracted and preſerved when both ſpirit and water are employed; that the proceſs is greatly expedited by this means; and that the doſe of the medicine, a point principally aimed at in theſe preparations, is leſs.

Extractum ligni Campechenſis.
Extract of logwood[1],
&c.

as alſo the extracts of all reſinous ſubſtances.

Extracts are to be kept in bladders moiſtened with ſweet oil.

Reſina jalappæ.
Reſin of jalap.

Take of the root of Jalap very well bruiſed, any quantity at pleaſure.

Pour thereon

of Rectified Spirit of Wine, as much as will cover the root to the height of four fingers.

Digeſt them together in a ſand-heat, till a tincture is extracted. Filter the tincture through paper, put it into a glaſs cucurbit, and diſtill off one half of the ſpirit.

Pour on the reſiduum,

A ſufficient quantity of Water,

and the reſin will be precipitated to the bottom; which is afterwards to be dried for uſe, with a very gentle heat.

Reſina guaiaci.
Reſin of guaiacum.

Reſina corticis Peruviani.
Reſin of Peruvian bark.

Reſina ſcammonii.
Reſin of ſcammony,
&c.

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[1] The extract of logwood is uſually prepared with water alone; but here ſpirit of wine is judiciouſly called in, to aſſiſt in the extraction of the medicinal parts of this wood: by its means, the proceſs, which is remarkably tedious, is greatly expedited, and at the ſame time the virtue of the preparation is improved.

Theſe reſins are prepared after the ſame manner as that of jalap.

The reſin of Guaiacum may be more commodiouſly made from gum Guaiacum than from the wood[m].

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[m] This preparation of gum guaiacum (as it is uſually called) tho' neglected in ſome diſpenſatories, is of very great uſe: for it appears from experiment, that not above one half of the common ſort of this drug is pure reſin, the reſt being feces which are diſſoluble neither in water nor ſpirit. The college have therefore with great propriety directed this preparation inſtead of the impure gum, in the ſection of pills, and in ſome other compoſitions.

Full directions for preparing extracts and reſins from vegetable ſubſtances, may be ſeen in *Pract. Chem.* p. 241. & ſeq.

SECTION III.

ESSENTIAL and FIXED SALTS,

WITH THE

Preparations of TARTAR.

Sal eſſentiale acetoſæ.
Eſſential ſalt of ſorrel.

TAKE of Juice of Sorrel [a] depurated by reſt, and decantation from the feces, what quantity you pleaſe.

[a] The plant deſtined for this purpoſe ſhould be cut juſt when it is ready to burſt out into flowers, for it is then fulleſt of well elaborated juice. Some pharmaceutical writers * direct it to be gathered early in the morning, and that the plant ſhould be well waſhed in fair water: but theſe two particulars are of very little moment; the ſubſequent depuration renders the latter unneceſſary; and the firſt direction has more of nicety in it than of real utility. In order to make the ſubject yield its juice readily, it ſhould be chopt to pieces, and well bruiſed in a marble mortar, before it is committed to the preſs. The juice of ſorrel is thick, turbid, eſpecially that which runs at firſt, of a green colour, and very acid; when depurated, it becomes thin, limpid, and of a more gratefully acid taſte. The magma of the plant which remains in the bag, ſtill containing no inconſiderable quantity of ſaline matter, may be advantageouſly boiled in water, and the decoction added to the expreſſed juice. The whole may be afterwards depurated together, either by the method above directed, or by running the liquor ſeveral times through a linen cloth.

* *Boerh. Elem. Chem. proceſſ.* 7.

Evaporate [b] it until only one third remains; paſs the remainder through an Hippocrates's ſleeve, and repeat the evaporation till a pellicle [c] concretes upon the ſurface. The liquor is then [d] to be put into a glaſs veſſel [e], and a little

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[b] Theſe acid kinds of juices are particularly apt to corrode metallic veſſels: the evaporation therefore ſhould be performed either in ſhallow glaſs baſons, or in ſuch earthen ones as are of a compact cloſe texture (placed in a ſand-furnace) ſuch are thoſe which are uſually called in the ſhops ſtone-ware. The common earthen veſſels are ſubject to have their glaſing corroded; and are ſo extremely porous, as readily to receive and retain a good quantity of the liquors boiled in them: theſe are therefore to be rejected, as utterly unfit for any nice purpoſes.

[c] The directions here are not ſo eaſily obſerved as one could wiſh. Theſe juices are ſo viſcid, and abound ſo much with heterogene matters, of a quite different nature from any thing ſaline, that a pellicle, or pure ſaline incruſtation upon the ſurface, is in vain expected. *Boerhaave* * therefore, and the more expert writers in pharmaceutical chemiſtry, with great judgment direct the evaporation of the ſuperfluous moiſture to be continued, until the decoction has acquired the conſiſtence of cream.

[d] The juice, though it ſhould ſeem from the former depuration to be perfectly defecated and pure, will yet, if ſuffered to ſtand for an hour or two in a warm place, depoſite a freſh ſediment, from which it ought to be carefully decanted, before it is put into the veſſel in which it is deſigned to be cryſtallized.

[e] Some recommend an unglazed earthen veſſel as preferable for this purpoſe to a glaſs one; the ſmoothneſs of the latter being ſaid to hinder the ſalt from ſticking thereto, while the juice, eaſily inſinuating itſelf into the pores of the former, has a great advantage of ſhooting its ſaline ſpicula to the ſides. Others previouſly ſlightly incruſtate the ſides and bottom of whatever veſſel they employ, with a certain mineral ſalt, which greatly diſpoſes the juice to cryſtallize, which of itſelf it is very averſe to: but as this addition is, with regard to its medical virtue, quite different from the ſalt here intended, we forbear to recommend it.

* *Ubi ſupra.*

little olive-oil [f] being poured upon the top, ſet by in a cellar, till plenty of cryſtals [g] appear formed, which are to be gently waſhed [h] with fair water, and afterwards dried for uſe [i].

In the ſame manner may be prepared

Sal centaurii minoris.
Salt of the leſſer centaury.

Sal cichorii.
Salt of ſuccory.

Sal euphraſiæ.
Salt of eyebright.

Sal fumariæ.
Salt of fumitory.

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[f] The uſe of the oil is to preſerve the juice uncorrupted, and to keep it from running into fermentation or putrefaction, during the great length of time which this proceſs requires. As much oil as will fully cover the ſurface of the liquor, is ſufficient for this purpoſe.

[g] The liquor which remains after the cryſtallization may be depurated by gentle colature, and after due inſpiſſation ſet to ſhoot, when a further yield of cryſtals will be obtained.

[h] The waſhing here directed is intended to cleanſe the ſalt from the mucilaginous feculencies which adhere to its ſurface, and ought to be performed with the utmoſt caution, to prevent any of the ſalt itſelf being diſſolved.

[i] The ſalt obtained by this means from ſorrel is, according to *Boerhaave* *, of the ſame nature with the tartar of auſtere wines. But from ſome experiments related by Mr *Geoffroy* †, it appears rather to reſemble a ſalt compoſed of the nitrous acid joined with a volatile ſalt; for the eſſential ſalt of our preſent proceſs being thrown on burning coals, deflagrates almoſt in the ſame manner as common nitre; and being ground with ſalt of tartar, exhales an urinous odour, the known property of other ammoniacal ſalts.

* *Ubi ſupra.*

† *Mat. Med. tom.* 3. *p.* 25.

Sal plantaginis.
Salt of plantane.

Sal quercûs.
Salt of oak,
&c.

as alſo the ſalts of all ſuch acid, auſtere, aſtringent and bitteriſh plants, as contain but a ſmall quantity of oil [k].

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[k] The proceſs for obtaining theſe ſalts is very laborious, and ſo tedious, as ſcarce to be compleated in leſs than ſeven or eight months; to which may be added, that the quantity of ſalt which any of theſe juices afford is extreamly ſmall. Hence they are hardly ever made, or expected in the ſhops. But as ſome chemiſts ſeem to have entertained very high notions of the medical virtues of theſe kinds of preparations (how juſtly founded we ſhall not pretend to determine) they have contrived ſeveral methods of expediting the proceſs, among which the two following ſeem the moſt extraordinary and worthy of notice.

The firſt is that of *Spieſſius* *—Take any quantity of wormwood, carduus benedictus, or the like plants, gently dried in the ſhade. Pour thereon a ſuitable portion of ſpirit of wine, and digeſt them together in a ſoft heat, till the menſtruum has acquired a green colour. The tincture is then to be put into a glaſs cucurbit, and diſtilled with the gentle heat of a water-bath, till ſo much of the ſpirit is come over, as that the remainder may be left of the conſiſtence of honey. The whole being now ſuffered to remain unmoved till grown perfectly cold, beautiful pyramidal cryſtals will be found to have ſhot from the ſides of the diſtilling veſſel towards its center. Theſe cryſtals are of the nitrous kind, but of a more ſubtile taſte than common nitre, giving only an agreeable coolneſs upon the tongue. The ſame gentleman relates, that having made an eſſence, or ſaturated tincture, of elecampane-roots with ſpirit of wine, and kept it unmoved for a year, he found a great number of cryſtals ſhot from the bottom of the glaſs upwards, of the thickneſs of a quill, and about an inch long.

* *Miſcellan. Berolin. continuat.* ii. *p.* 91. 92.

The waters of theſe plants, which are in vain endeavoured to be drawn over by diſtillation, may be obtained by diſſolving
A ſuitable quantity of their Eſſential Salt in Common Water.

Sal fixum abſinthii.
Fixed ſalt of wormwood.

The ſecond proceſs is from the celebrated Dr. *Stahl* [*], and is as follows.—Take of brooklime, pellitory, mercury, ſoap-wort, wormwood, or of any other plants of the ſame kind, as much as may be convenient. Dry either of theſe quick in a ſhady place; then cut it ſmall, and pour thereon a ſufficient quantity of highly rectified ſpirit of wine. Digeſt them together till the menſtruum becomes ſaturated with the oily or reſinous parts of the herb: then pour off the tinged liquor, add a freſh parcel of ſpirit, and digeſt as before, continuing to add more of the menſtruum, till ſuch time as it is found no longer to extract any colour from the vegetable. Afterwards gently exſiccate the remaining plant; then add to it a ſuitable proportion of water, and boil them together till the liquor becomes fully impregnated with the ſaline parts of the vegetable: the decoction being then paſſed through a filtre, afterwards evaporated to a due conſiſtence, and ſet by in a cool place, will ſhoot into ſaline cryſtals, which on examination appear manifeſtly nitrous.

The above proceſſes are very uncommon and extraordinary, and do not quadrate very well with each other. As they are facts which we have not had an opportunity to try, we ſhall not preſume to give our opinion of them; but only make this remark, that the latter appears well founded, and ſeems a good method of managing this proceſs to advantage, particularly with regard to ſuch vegetable ſubſtances as abound with oil; for oil ſo engages and retains the particles of ſalts, as to prevent their uniting and forming cryſtals; whence it being taken away by means of ſpirit of wine a regular cryſtalliſation enſues.

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[*] *Fundament. Chem. Dogmat. & Experiment. p.* 68. *& alibi.*

Take any quantity of the plant Wormwood, either freſh-gathered or gently dried [l].

Put it into an iron pan, and with a gentle fire reduce it into white aſhes [m], which are afterwards to be boiled, ſo as to make a ley, in

A ſufficient quantity of ſpring Water [n].

[l] Fixed ſalts are obtained much ſooner and eaſier from dry ſubjects than from green ones; but care ſhould be taken that they are not too dry or too old; for they will then, as *Boerhaave* * very well obſerves, afford but a ſmall quantity of ſalt.

[m] In this part of the proceſs, care ought to be taken that the plant do not take flame; or, if it ſhould, to put out the flame, by covering the pan; otherwiſe it, by carrying off the oily part of the vegetable, will deprive the ſalt of the ſaponaceous quality expected, and render it too fiery and corroſive. The trading chemiſts, indeed, are not very nice in this point; but inſtead of a ſlow and wary calcination, ſet fire to the plant in the open air, and burn it into white aſhes: The ſalt obtained by this method proves not only different from that here intended, but likewiſe falls far ſhort of the quantity which would be procured by the treatment recommended above.

The moſt eligible method of performing this operation, where only a ſmall quantity of ſalt is deſired, ſeems to be that of *Tachenius*, who directs the plant to be burnt with a moderate fire, in a veſſel covered with an iron plate, ſo as to exclude the air, till the ſubject is reduced to a black coal. The cover is then to be removed, and the matter kept continually ſtirring, till it is reduced into uniformly white aſhes: if it ſhould take flame, this may be eaſily extinguiſhed by duly regulating the heat, and occaſionally putting on the cover. After this, the aſhes may be ſuffered to remain over the fire, and kept ignited for an hour or two longer.

[n] About ſix parts of water may be employed to one of the aſhes, and the coction continued till the menſtruum has fully ſaturated itſelf with the ſaline parts. Freſh water may be poured on the remainder, and the boiling repeated till all the ſalt is extracted.

* *Elem. Chem. proceſſ.* 10.

Filter the ley, and evaporate it [o] over a gentle fire, till a brown [p] ſalt is left behind, which by repeated ſolutions, filtrations and coagulations, may be rendered pure and white.

In the ſame manner may be prepared

Sal fabarum ſtipitum.
Salt of bean-ſtalks.

Sal geniſtæ.
Salt of broom,
&c. [q].

Cryſtalli

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[o] The evaporation may be commodiouſly performed in an iron veſſel, and continued till the ſalt remains perfectly dry, obſerving towards the end of the proceſs to keep the matter continually ſtirring with an iron ſpatula, to prevent its ſticking to the bottom and ſides of the veſſel.

[p] According to *Boerhaave*, the brown colour of the ſalt is a criterion of its having been duly prepared.

[q] In former editions of this diſpenſatory fixed ſalts were directed to be prepared in the ſame manner as the ſalt of wormwood, from mugwort, carduus benedictus, leſſer centaury, ſcordium and tamariſk. But as none of theſe ſalts were ever called for, or kept in the ſhops, they are now juſtly rejected, thoſe here retained being abundantly ſufficient to anſwer all the uſeful purpoſes that can be expected from this kind of preparations. And indeed, the place of all theſe ſalts might perhaps be commodiouſly enough ſupplied by one drawn from the cheapeſt ſubject; for all the ſalts obtainable from vegetables by the proceſs above deſcribed, if reduced to the ſame degree of ſtrength, and prepared exactly in the ſame manner, ſeem to be nearly one and the ſame, and not to be diſtinguiſhed from each other, at leaſt ſo far as they are conſidered as medicines. The differences uſually obſerved in them depend entirely upon the manner in which the operation is conducted. Thus, if different degrees of heat be employed in the calcination of the vegetable matters, their ſalts acquire different degrees of acrimony; the more vehement and laſting the fire, the more acrid is the ſalt. The different circumſtances of applying the water hot or cold to the aſhes, likewiſe make a notable variation:

Cryſtalli tartari.
Cryſtals of tartar.

Take of White Tartar, reduced to powder, as much
as you pleaſe.

Boil it, till perfectly diſſolved, in
Twenty times its quantity of Water.

Let the ſolution, while it continues hot, be paſſed through filtering [r] paper, and received in a wooden veſſel:

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tion: boiling water takes up more of the earthy and oily parts than cold water does; whence the ſalt extracted by means of the former, becomes ſomewhat ſaponaceous and of a brown colour: boiling water diſſolves likewiſe a kind of neutral ſalt, of a quite different nature from fixt alcaline ſalts, though frequently found amongſt the aſhes of vegetables; while cold water extracts from them only the pure alcaline ſalts, unleſs it be uſed in too large a quantity, or imprudently ſuffered to ſtand too long upon them. See *Pract. Chem.* p. 270.

Some authors however are of opinion that there is a real eſſential difference in the fixed ſalts of plants, and Mr. *Gmelin* * has communicated to the publick a variety of experiments, from the diary of the royal laboratory in *Sweden,* to ſupport this opinion. Upwards of forty different plants were calcined with the ſame degree of heat continued for the ſame lengths of time, and the aſhes of each vegetable elixated apart with pure diſtilled water. The reſult was, that many of theſe ſalts afforded different phenomena upon mixture, and formed ſomewhat different mixts with ſpirit of vitriol, of nitre, of ſalt, ſolution of ſugar, of alum, of ſublimate corroſive, ſilver, blue vitriol, green vitriol, and the like. But as the diſpute in this place is only with regard to their medicinal effects, and as phyſicians generally allow the virtues of all theſe kinds of ſalts to be one and the ſame, no fair objection can be brought from the above experiments, againſt the identity of theſe kinds of ſalts conſidered as medicines.

[r] The filtration of ſolution of tartar through paper ſucceeds very ſlowly, and unleſs managed with a good deal of addreſs, not at all; for as ſoon as the boiling liquor begins to grow ſenſibly leſs hot, it depoſites moſt of the tartar all over the ſurface of the paper, and thus effectually hinders the remainder from paſſing through. The

* *Comment. Acad. Petropolitan. tom.* v. *p.* 277.

veſſel: then expoſe it, for a night or longer, to the cold air, that cryſtals may form themſelves, and ſhoot to the ſides of the veſſel: the water being now poured off, the cryſtals are to be collected, and dried for uſe [s].

experienced *Zwelffer*, in his animadverſions upon this proceſs, in the *Auguſtan Pharmacopœia* *, directs the ſolution of tartar to be clarified by the admixture of whites of eggs, and ſimple colature through a fine linen cloth; he likewiſe judiciouſly orders the veſſel to be cloſe covered, and the cryſtalliſation performed in a warm place: for if the ſolution be ſuffered to cool very faſt, it is in vain to expect any appearance of cryſtals; the tartar will inevitably be precipitated to the bottom of the veſſel in the form of ſand.

[s] The buſineſs of refining and cryſtalliſing tartar is ſo extremely troubleſome, and requires ſo large an apparatus, that ſcarce any of the apothecaries, or even of the trading chemiſts, are at the trouble of it, but either import it ready refined from *Holland*, or purchaſe it from ſome people here who make it their ſole buſineſs. Mr. *Geoffroy* † informs us that they have another method of purifying tartar near *Montpelier*, at two places called *Calviſſon* and *Aniane*. The refiners here pour a ſtrong decoction of pulverized tartar, through a ſtrainer, into proper veſſels; the ſides of which are ſoon cruſted over with cryſtals; theſe are further cleanſed from ſuch feculencies as have paſſed the ſtrainer, and which ſlightly adhere to them, by frequent ablutions with ſimple water. Afterwards they uſe a certain ſaponaceous earth, not unlike chalk, which is found at a place called *Merviel:* Of this earth they make a dilute ſolution in water, which looks like milk; and in this, by ſtrong coction, they diſſolve a conſiderable quantity of the already half purified tartar, and then perform the cryſtalliſation in the common manner. By this means, they obtain fairer, larger and whiter cryſtals, at much leſs expence, than when the proceſs is conducted in the uſual method. The uſe of the earth here employed may be conjectured from the note on the article *Tartar* in the foregoing part of this book, p. 70.—We have been induced to give this note here, from an opinion that this kind of purified tartar will turn out, upon examination, a quite different thing from the preparation here expected, at leaſt for ſome certain purpoſes, if not for medicinal uſe.

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* *Pharmacop. Auguſt. Reform.* 4to. 1672. pag. 466.

† *Tract. de Mat. Med.* tom. ii. pag. 759.

This preparation differs not from

Cremor tartari.
Creme of tartar [t].

Take of the Solution of Tartar, obtained as in the preceding proceſs, and filtered, what quantity you pleaſe.

Let it boil over the fire, till a thick cuticle appears on the ſurface, which is to be taken off with a wooden ſkimmer bored full of holes: Continue the boiling, till a freſh cuticle ariſes, which is to be taken off as the former, and the operation repeated, till the whole quantity of liquor is thus conſumed. Afterwards dry all the cuticles together in the ſun.

Sal tartari.
Salt of tartar.

Take any quantity of White Tartar [u].

Wrap it up in paper [w] ſomewhat wetted, and calcine it in a reverberatory furnace, till it becomes exceedingly white; then diſſolve it in warm Water, filter the ſolution, and evaporate it in a clean iron veſſel, till a ſalt is left behind perfectly dry, and white as ſnow; obſerving, towards the end of the operation, to keep the matter continually ſtirring with an iron ladle, to prevent its ſticking to the bottom of the veſſel.

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[t] This proceſs ſeems inſerted only to retain a name long familiar to the ſhops; for the preparation itſelf in no reſpect differs from the cryſtals of tartar reduced to powder.

[u] White tartar is here directed as being the pureſt kind; but any ſort of tartar is equally fit for the purpoſe of making fixt ſalt. Mr. *Lemery* obtained four ounces of very white and well purified ſalt from ſixteen ounces of red tartar; he likewiſe obſerves that a little more may be drawn from the white ſort. This remark quadrates with our own experiments. See *Pract. Chem.* p. 299.

[w] The uſe of the paper here is to prevent the ſmaller pieces of the tartar from dropping down into the aſh-hole, through the interſtices of the coals, upon its being injected into the furnace.

If a ſtronger ſalt of tartar is required, let the white ſalt be fuſed in a crucible, with the moſt intenſe degree of heat; and reverberated for ſome hours, till it has acquired a greeniſh or blue colour [x].

Liquamen ſalis tartari,
vulgò oleum tartari per deliquium dictum.

Liquor of ſalt of tartar,
commonly called oil of tartar per deliquium.

Take any quantity of Salt of Tartar.

Having placed it in a flat glaſs diſh, expoſe it to the air for ſome days, in a moiſt place, and it will run into a liquor, which is either to be filtered through paper, or ſeparated from the feces by decantation [y].

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[x] The greeniſh or blue colour, generally looked upon as an infallible mark of the degree of ſtrength, which theſe kinds of preparations arrive to, upon being expoſed to the action of a vehement fire continued for a long time, is fallacious and uncertain: for if the crucible, or melting veſſel, be perfectly clean, cloſe covered, and has ſtood the fire without cracking, the ſalt will turn out white and colourleſs, though kept fuſed and reverberated ever ſo long; whilſt on the other hand, a ſlight accident, or dextrous management of the proceſs, ſhall in a few minutes give the ſalt the colour admired.

[y] One ounce of good ſalt of tartar will thus imbibe from the air near three ounces of aqueous moiſture.

The ſolutions of fixed alcaline ſalts, effected by expoſing them to the moiſture of the air, are generally looked upon as preferable to thoſe haſtily made by diſſolving them in water, with the aſſiſtance of heat, as practiſed in the ſhops: It appears directly from experiment, that theſe kinds of ſalts (however purified by ſolution in water and colature) upon being expoſed to the action of the air, depoſite a conſiderable quantity of terreſtrial matter, and thus become more perfect and pure.

The higher the ſalt has been calcined, the more readily will it relent in the air.

Tartarus vitriolatus.
Vitriolated tartar.

Take of Oil of Tartar per deliquium, what quantity you pleaſe.

Put it into a large glaſs veſſel, and gradually drop into it

Of Oil of Vitriol, diluted with equal its quantity of warm water, as much as is ſufficient, that is, till the effervefcence ceaſes. The liquor is then to be paſſed through a filter, and afterwards evaporated till a pellicle appears on its ſurface, that being ſet in a cold place, it may ſhoot into cryſtals [z].

Tartarus

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[z] The previous diſſolution of the fixt alcaline ſalt, and the dilution of the acid ſpirit with equal its quantity of water, are circumſtances which not only contribute to the ſucceſs of the proceſs, but likewiſe are marks of the great ſkill and judgment which the authors of this diſpenſatory have all along ſhewn in theſe matters; for by this means the mixture is made more equable, the point in which the effervefcence ceaſes more eaſily marked, and the trouble of diſſolving the concrete ſalt which reſults from the mixture of theſe two ingredients when no water is employed, prevented. Some have been accuſtomed to prepare vitriolated tartar from a ſolution of green vitriol made in about ſix times its own quantity of water: this proceſs ſeems much leſs artfully and ſcientifically contrived than the above, upon many accounts; and it may ſo happen, that the ſalt, quite contrary to the intention of the preſcriber, may participate of the metallic part of the vitriol, as well as the acid alone deſigned.—The wholeſale dealers in medicine have long thrown aſide both theſe methods of preparing this ſalt; and have ſubſtituted in its ſtead an article which has been almoſt uſeleſs in their ſhops: this is the caput mortuum of *Glauber*'s ſpirit of nitre; which appears, upon examination, to be nearly one and the ſame thing: this piece of frugality therefore may well be admitted.—The cryſtallization directed above ſhould be always complied with, to prevent the medicine being more acid at

Tartarus ſolubilis.
Soluble tartar.

Take of Cryſtals of Tartar, as much as you pleaſe.
Boil them, till perfectly diſſolved, in
Ten times their quantity of Water.
Into the ſolution, while boiling, drop by degrees,
of Oil of Tartar per deliquium, as much as is ſufficient,

that is, till the effervеſcence ceaſes; then filter the liquor, while it continues hot, and evaporate it untill a pellicle appears on its ſurface, that being ſet in the cold, cryſtals may form themſelves[a].

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at one time than at another; which may eaſily happen, notwithſtanding a good deal of care has been taken in the proceſs.

[a] This celebrated preparation has long been in great eſteem, both as a medicine, and as a menſtruum, to unlock the texture of other bodies, for ſundry purpoſes. The proceſs is exceeding plain and eaſy: But ſome chemiſts have rendered it very laborious and difficult, by a nicety that is not at all wanted, and which anſwers no purpoſe of any moment. Some inſiſt upon hitting the very exact point of ſaturation; and caution the operator to be extremely careful when he comes near the mark, leſt he imprudently, by dropping in too much of the alcaline lixivium, render the ſalt too alcaline; or for want of a due quantity thereof, make it too acid. If the liquor be ſuffered to cool a little before it is committed to the filter, and then properly exhaled and cryſtallized, no error of this kind can happen; for if too much of the cryſtals of tartar have been added, they will be left on the paper; if too much of the oil of tartar per deliquium, it will remain uncryſtallized. But the cryſtalliſation of ſuch ſalts as this, which are ſubject to flow in the air, is not effected without a good deal of trouble; it would therefore be more convenient to let the acid ſalt prevail (the ſuperfluous quantity of which, as is remarked above, will be left upon the filter) and proceed to the total evaporation of the aqueous fluid, which will leave behind it the neutral ſalt required; care being taken, when the liquor grows very thick, to keep it continually ſtirring, over a very gentle fire, till the matter has acquired a due degree of ſiccity.

Tartarus regeneratus.
Regenerated tartar.

Take any quantity of dry Salt of Tartar [b], in powder.
Put it into a large glaſs veſſel, and pour thereon by little and little,

Of Spirit of Vinegar [c], as much as is ſufficient to ſaturate the ſalt [d].

Filter

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[b] Inſtead of ſalt of tartar, any pure fixed alcaline ſalt may be employed for this purpoſe; but as moſt of the fixed ſalts which the ſhops are furniſhed with contain ſome portion of a neutral ſalt, this ought to be carefully ſeparated by cryſtalliſation, before the vinegar is added, eſpecially if the ſalt be expected in the form of leaves, or thin plates, like talc, lying one upon another; a circumſtance here not inſiſted upon, as occaſioning a great deal of trouble, without the leaſt foundation for it.

[c] It is a piece of very ill huſbandry to dephlegmate * the vinegar deſigned to be employed in this proceſs; for however ſlowly or warily the exhalation be conducted, a conſiderable portion of the acid will ariſe along with the merely aqueous parts.

[d] *Boerhaave* † gives very particular directions for managing this proceſs; and if all the circumſtances which he deſcribes, be duly obſerved, it cannot fail of ſucceſs. According to the obſervations of this curious operator, the degree of efferveſcence increaſes with the quantity of vinegar added, even till the ſaturation is completed: After about fourteen parts of ſtrong diſtilled vinegar have been gradually poured upon one of the fixed ſalt, the addition of a little more of the acid will not occaſion any further efferveſcence, in the cold; but if the mixture be now ſtrongly ſtirred and well heated, the efferveſcence will appear afreſh; upon which ſome more vinegar is to be added, till it again ceaſes. After this, he directs the whole to be kept warm for twenty-four hours; at the end of which time, if upon ſhaking the veſſel no ebullition enſues, a little more of the acid is to be dropt in, and the veſſel again ſhaken; and if no efferveſcence now ariſes, the exact point of ſaturation is hit: But in this we may be ſome-

* *Pag.* 124.

† *Elem. Chem. proceſſ.* 76.

Filter the liquor, and exhale it [e] over a very gentle fire to dryneſs [f], taking great care that the matter contract not an empyreuma [g]. On the ſalt which remains pour

of freſh Spirit of Vinegar, as much as is ſufficient to ſaturate it.

Then depurate [h] the liquor, and carefully exſiccate it till a dry ſalt is left [i].

Sapo

ſometimes miſtaken, as will appear in the ſubſequent note [f]. The liquor thus prepared is tranſparent, of a peculiar odour, of a taſte neither acid nor alcaline, but particularly ſaline, and almoſt without acrimony.

[e] The exhalation ſhould be rather performed in glaſs veſſels, than in earthen or iron ones. The firſt abſorb into their pores a conſiderable quantity of this valuable ſalt; whilſt the latter are apt to be corroded by the vinegar, particularly towards the end of the proceſs. —The liquor upon evaporation ſoon becomes of a brown or blackiſh colour, and at length perfectly black and unctuous.

[f] The ſalt which now remains is of a dark brown colour, of a highly penetrating ſaponaceous taſte, and being diſſolved again in diſtilled vinegar, efferveſces with it; ſome more of the acid therefore ſhould be prudently added to it, with the ſame cautions as above, till not the leaſt efferveſcence is perceptible.

[g] The whiteneſs and purity of this preparation depend in great meaſure upon the manner in which the exſiccation is performed. The committee appointed by the college of phyſicians of *London* to reform their *Pharmacopœia*, direct the impure ſalt to be melted in a crucible with a gentle heat, for a little while, but not too long. The ſalt being now diſſolved in water, if the liquefaction has been rightly performed, will paſs the filter limpid and colourleſs: but if there be any error committed in this part of the proceſs (that is, if the ſalt be continued for too long or too ſhort a time over the fire, or the heat not well managed) the liquor will be of a brown colour, and upon evaporation yield a ſalt of the ſame hue.

[h] The nearer the mixture approaches to ſaturation, the greater plenty of black feces does it depoſite; it ſhould ſeem therefore unneceſſary to filter it, as directed in the preceding part of the proceſs; but rather to defer the depuration till this point is exactly hit.

[i] The pharmaceutical writers, as uſual, extoll this ſalt as a wonder-

Sapo tartareus.
Soap of tartar.

Take of Salt of Tartar, very well calcined, and reduced to powder while ſtill hot, as much as you pleaſe.

Immediately pour on it, in a broad glaſs veſſel, Twice its quantity of Oil of Turpentine.

Let them ſtand together in a cellar for ſome weeks, till the oil has penetrated the ſalt; then add more oil by degrees, till the ſalt has abſorbed thrice its own quantity thereof, and both of them are united into a ſoap, which will happen in a month or two, if the matter is every day ſtirred [k].

The

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full medicine. This is certain, that it may be ſo doſed and managed, as to prove either a mild cathartic, or a powerful diuretic. It is really a moſt admirable ſalt for many purpoſes; it perfectly diſſolves both in ſpirit and in water, without depoſiting any feces; and conſidered as a menſtruum, is capable of producing extraordinary effects.

[k] Various methods of making this celebrated preparation occur in the writings of the chemiſts; perhaps there is no one in the chemical pharmacy that has occaſioned greater diſputes. Some authors ſtrongly contend, that the method which they deliver is the only one to be depended upon; and deny the poſſibility of effecting the union of the two ingredients, by any other means than thoſe which they recommend: whilſt others propoſe quite different proceſſes, as the only practicable ones; and abſolutely deny the poſitive aſſertions of their opponents. *Boerhaave* * recommends a proceſs ſimilar to that now before us; and ſays, that the ſecret conſiſts in this, that the alcali be ſtrong, pure and dry, and mixed immediately with an oil perfectly deprived of water; if the leaſt water ſhould enter, ſays he, the proceſs will not ſucceed. On the other hand, *Wilſon*, an expert operator, and a faithful relater of matters of fact, ſuffers his alcaline ſalt to grow moiſt from the air, before he puts the oil to it †. The committee appointed to review the *London Pharmacopœia*, favour the

* *Element. Chemiæ, proceſſ.* 74.

† *Pract. Chem.* pag. 306.

latter

The effect ſucceeds ſooner, if the containing veſſel be fixed to the ſail of a windmill, or any other machine that turns round with great velocity [1].

Lapis ſepticus, ſeu cauterium potentiale.
The ſeptic ſtone, or potential cautery.

Take of Quicklime, reduced to powder, half a pound.

Put it into a crucible, and calcine it throughly: then ſprinkle into it
of Potaſhes, half a pound.

Keep the whole in a wind-furnace, till the ſalt flows.

latter method; and inform us, that ſeveral pompous and tedious proceſſes have been given for the making of this ſoap, with numerous cautions, which in reality are no better than ſo many endeavours to prevent ſucceſs; for that no union can be brought about till ſome watery moiſture is added, either by deſign or accidentally.

In order to ſatisfy ourſelves with regard to this diſpute, we tried the experiment both ways, with and without water; and ſucceeded in both trials. The proceſſes which we followed, were thoſe of Mr. *Wilſon* * and Mr. *Geoffroy* †. With regard to the latter, the union of the oil and ſalt was compleated in ſo ſhort a time (a few minutes) and the ingredients ſo perfectly dry, that we had no reaſon to ſuſpect the moiſture of the air to have had any ſhare in the ſucceſs of the operation.

[1] The regular, uniform motion here recommended to facilitate this tedious proceſs, ſeems not well calculated to anſwer the deſign. We ſhould conceive from ſome analogous experiments, that the different degree of centrifugal force, which the oil and ſalt acquire from a rapid gyratory motion, ſhould rather keep the two ingredients apart, than tend any ways to unite them. The irregular agitation, which ſo greatly promoted the union of the oil of turpentine with the fixed alcaline ſalt, in the experiment related by Dr. *Grew* ‡, muſt, no doubt of it, very much facilitate this proceſs; and if vehement and continued, finiſh it in a ſhort time.

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* *Ubi ſupra.*

† *Mem. de l'Academ. roy.* 1725.

‡ *Of the nature, cauſes and power of mixture*, chap. 4. ſect. 6.

Pour out the maſs into an iron veſſel, and add to it
of Water, as much as will be ſufficient.

Let them ſteep together for ſome days; afterwards filter the liquor, and inſpiſſate it to the conſiſtence of a ſtone[m].

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[m] The above cauſtic requiring a wind-furnace and a good deal of trouble in making, we have inſerted the following, which is not only more eaſily prepared, and at leſs expence, but the uſe of it is likewiſe free from ſeveral inconveniences which unavoidably attend the other, and the common lapis infernalis of the ſhops.

Take any quantity of freſh, well calcined, pure, fixed alcaline ſalt. Diſſolve this with about equal its own weight of boiling water, in an iron veſſel, over the fire: then ſprinkle in, while boiling, as much freſh lime, ſlaked, and ſifted, as will abſorb all the liquor, and reduce the whole to the conſiſtence of a paſte; which is to be kept in glaſs bottles, cloſe ſtopped, for uſe.

CLASS THE SECOND.

CHEMICAL PREPARATIONS

OF

ANIMALS.

Spiritus, ſal & oleum cornu cervi.

Spirit, ſalt and oil of hartſhorn.

TAKE of Hartſhorn cut into pieces, what quantity you pleaſe.

Fill therewith an earthen or coated glaſs retort [a] up to the neck; place it in an open fire, and having fitted on on a large receiver, proceed to diſtillation, with a gradual heat[b]: at firſt a phlegm[c] ariſes, then a ſpirit[d], afterwards an oily ſalt[e] of a yellow colour; and laſt of all,

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[a] The diſtillation of hartſhorn, and ſuch like animal ſubſtances, is uſually performed in a large iron pot (placed in a proper furnace) with an earthen head almoſt like thoſe of the common ſtills. *Boerhaave* * recommends a head with two pipes; but theſe have been long laid aſide, on account of their great expence, the inconveniency found in uſing them, and their anſwering no valuable purpoſe. Many of the wholeſale dealers have theſe inſtruments of a prodigious ſize, and uſe for their recipients a couple of oil-jars, the mouths of which are luted to each other: the pipe which comes from the head enters the lowermoſt of theſe veſſels, through a hole made in its ſide for that purpoſe. When a large quantity of theſe matters is to be di-

* *Element. Chem. proceſſ.* 120.

ſtilled, it is cuſtomary to repeat the operation for ſeveral days ſucceſſively, without unluting the receivers, only occaſionally removing the head, to put in freſh materials. When only a ſmall quantity of ſpirit or ſalt is wanted, a common iron pot, ſuch as is uſually fixed in ſand-furnaces, may be employed to advantage, an iron head being fitted to it; between the pipe of which and a large receiver, a glaſs or rather tin adopter is to be inſerted. With this apparatus, the diſtillation of dry animal ſubſtances may be performed far more commodiouſly, with leſs danger, expence and time, than with the earthen or coated glaſs retorts ordered above.

[b] The diſtillation ſhould be conducted with a gradual and ſlow augmentation of the heat, particularly when the white vapours begin to ariſe, which they ſometimes do ſo ſuddenly, as to throw off or burſt the recipient. To prevent this accident, it will be convenient to leave a ſmall hole in the luting, which may be occaſionally ſtopped with a wooden peg, or opened, as the operator ſhall find convenient.

[c] The quantity of phlegm or aqueous fluid, which animal matters afford on diſtillation, varies with the degree of accidental dryneſs or moiſture of the ſubſtances themſelves. As this therefore is of no manner of uſe, it is extremely convenient to thoroughly dry them before they are put into the diſtilling veſſel, which expedites the operation, and ſaves a great deal of trouble.

[d] What is here called ſpirit is a ſolution of the volatile ſalt in phlegm. The more carefully therefore the exſiccation recommended in the foregoing note is performed, the leſs will be the yield of the ſpirit, and the greater the product of ſalt.

[e] When the volatile ſalt begins to ariſe, white fumes are ſeen to paſs into the recipient, which increaſing, ſaline cryſtals form themſelves, all over its ſides, in variety of figures, which the ſtrong imagination of ſome fanciful chemiſts has likened to the original horn, and ridiculouſly applied to eſtabliſh the doctrine of ſubſtantial forms; not conſidering, that from whatever animal ſubſtance the ſalt is obtained, exactly the ſame phænomenon appears. The only uſe which we

all, a reddiſh black coloured oil, along with ſome volatile ſalt. A black earth or coal [f] remains at the bottom of the diſtilling veſſel, which being burnt [g] in an open fire, till it becomes white, is then called

Cornu cervi calcinatum, *or*,
Calcined hartſhorn.

Having poured out of the recipient all the different matters which have come over into it, they may be ſeparated from each other in the following manner.

The oil ſeparates from the phlegm and ſpirit in filtration; the two latter will paſs through, and the oil remain upon the filter [h].

The

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we would make of the above obſervation is, that if the ſalt is deſired in a dry form, the receiver ſhould not be luted, till ſuch time as theſe fumes ariſe, that the phlegmy part may be poured out before the ſalt comes over.

[f] The black earth which remains at the bottom of the diſtilling veſſel, ſtill contains a portion of oil, which no fire can ſeparate from it, while confined in cloſe veſſels. This coal retains nearly the form and texture of the animal ſubſtance; and upon examination, proves of little or no taſte or ſmell; water, even with the aſſiſtance of heat, ſcarce makes any impreſſion on it: reduced to powder, it has been given as a medicine: *Boerhaave* * recommends it as an excellent anthelmintic, and orders it to be given upon an empty ſtomach.

[g] The exuſtion, here directed to be performed in an open fire, is with an intent to diſlodge the remaining oil from the hartſhorn, and to reduce it to the ſtate of a mere animal calx or earth. Some recommend an intenſe degree of fire; others ſend the operator to the potters furnace, as the only, or at leaſt the moſt convenient one for this purpoſe. But ſurely any kind of furnace will ſerve, provided it be ſo open as freely to admit the air to the horns while burning. A ſmall degree of fire will ſuffice, if this circumſtance be duly obſerved; but the moſt intenſe heat will be utterly unable to produce this effect without it.

[h] All the liquid matters being poured out of the receiver, the ſalt which remains adhering to its ſides is to be waſhed out with a little

* *Ubi ſupra.*

fair

The phlegm may be ſeparated from the ſpirit, by committing them to diſtillation, in a tall veſſel, applying only a gentle fire: the ſpirit will come over into the recipient; and the phlegm remain at the bottom of the diſtilling veſſel[i].

The ſpirit may be divided into a volatile ſalt and phlegm, by diſtilling it in a very tall and narrow cucurbit; the ſalt will ariſe, and adhere to the head in a dry form; the phlegm remaining at the bottom[k].

The ſalt may be freed from the oil, by ſubliming it from ſix times its quantity of chalk, or calcined bones; for the oil is kept down by theſe ſubſtances, while the ſalt ſublimes on high[l].

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fair water, and added to the reſt. It is convenient to let the whole ſtand for a few hours, that the oil may the better diſengage itſelf from the liquor, ſo as to be firſt ſeparated by a funnel, and afterwards more perfectly by filtration through paper wetted with water.

[i] The ſpirit may be diſtilled from the ſuperfluous phlegm in a common retort placed in a ſand-furnace, provided the diſtillation be conducted in a ſlow manner, with a very gentle degree of heat. At firſt the ſalt will ariſe, and fix itſelf to the upper part of the recipient, from which it will be ſoon waſhed down by the ſubſequent phlegm. As ſoon as the ſalt is almoſt all diſſolved, the retort is to be raiſed out of the ſand, and the fire ſuffered to decay. If any oil ſwims upon the ſpirit, it ſhould be ſkimmed off.

This rectification will not ſufficiently purify the ſpirit for medicinal uſe; and ſhould therefore be repeated once or twice more.

[k] The ſalt may be ſeparated from the ſpirit, by ſublimation in a tall body, with a glaſs head; care being taken to remove the veſſels, as ſoon as any ſigns of phlegm appear.

[l] The above method will render the ſalt very white, and tolerably pure. Nevertheleſs, upon keeping for ſome time, it turns yellowiſh, and acquires a fetid ſmell, ſo as to ſtand in need of a more perfect depuration; which may be obtained, by ſubliming it a ſecond time from a ſmall portion of highly rectified ſpirit of wine.

Spiritus, ſal & oleum,
A ſpirit, ſalt and oil

may be diſtilled in the ſame manner from all the ſolid parts of Animals:

And from Blood, exſiccated by a very gentle heat [m]:

As alſo from Urine, previouſly evaporated to the conſiſtence of honey, and putrefied; or even from recent inſpiſſated urine, mixed with four times its quantity of ſand [n], or an equal quantity of any fixt alcaline ſalt.

Urine diſtilled with the addition of Quicklime, yields only an exceeding pungent ſpirit [o].

Sal

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[m] If the diſtillation of blood be performed in a retort, ſuch an one ſhould be made choice of as has a wide neck and orifice; for unleſs great care be taken, towards the end of the proceſs, the black matter which remains in the bottom of the retort is apt to rarefy and ſwell, ſo as to ſtop up the neck, and burſt the diſtilling veſſels to pieces, as *Boerhaave* * informs us from his own experience. This danger, we conceive, might effectually be prevented, by mixing the blood with three or four times its quantity of dry ſand; though, for medicinal purpoſes, the operation need not be continued ſo long as to give any room for an accident of this kind.

[n] The ſand is not abſolutely neceſſary †, as might at firſt ſight be conjectured from its inſertion here, and from the 96th proceſs of *Boerhaave*; but is a convenient addition, ſerving for the ſame purpoſe as it does in the diſtillation of blood, in the preceding note.

[o] The diſtillation of urine with quicklime is an exceeding troubleſome proceſs, and requires a good deal of addreſs in the operator to manage with ſucceſs. Hence, this ſpirit in the ſhops is generally ſupplied with the ſpirit of ſal ammoniac; which, if well made, is ſufficiently pungent to anſwer any uſeful purpoſes that can be expected from this.

* *Elem. Chem.* proc. 119.

† *Pract. Chem.* pag. 360.

General Remarks upon Volatile Salts and Spirits.

The apothecaries ſhops were formerly burthened with a vaſt number of volatile ſalts and ſpirits, drawn not only from different animals, but likewiſe from different parts of the ſame animal. Theſe were ſuppoſed capable of producing different effects upon the human body: thus, the volatile ſalt and ſpirit, extracted from the human ſkull, were whimſically enough looked upon as medicines peculiarly adapted to remove diſeaſes of the head: and thus, the ſalt obtained from vipers was accounted the only one to be depended upon, for the cure of the bite of that animal: while the ſpirit from human blood, carefully prepared, was eſteemed the moſt ſovereign remedy in all diſorders, a medicine never enough to be extolled, to which all other preparations of this kind muſt give way; ſince this was drawn from the moſt perfectly elaborated juice of the nobleſt animal, and therefore conſequently muſt be endowed with virtues ſuperior to any other.

The modern practice of phyſick acknowledges no ſuch different effect from theſe preparations, in the cure of diſeaſes. Hence the firſt compilers of this diſpenſatory introduced but very few of them into their book.

There is indeed a difference in the ſmell, taſte, degree of pungency and volatility, manifeſtly perceptible to the ſenſes, in theſe ſalts and ſpirits; and without doubt their medicinal virtues vary, if not quite ſo much, yet conſiderably enough to deſerve particular notice. But this difference all theſe preparations have in common, according as they are more or leſs loaded with oil, not as they are drawn from this or that animal ſubſtance. When firſt diſtilled, they may be looked upon as a kind of volatile ſoap, in which the oil is the prevailing principle. In this ſtate, they are leſs acrimonious and pungent, than when they have undergone repeated diſtillations, and ſuch other operations as diſengage the oil from the ſalt: for by this means, theſe preparations loſe their ſaponaceous quality, and acquiring greater degrees of acrimony, become medicines of a quite different claſs. To which muſt be added, that when we conſider theſe ſalts as loaded with oil, the particular virtue of a diſtilled animal oil * is to be brought into the account.

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* *Hoffm. Obſervat. Phyſico-Chym.* lib. 1. obſ. 14.

Sal ammoniacum factitium.
Factitious ſal-ammoniac [p].

Take of Human Urine [q], or that of Beaſts, three quarts;
Sea-ſalt [r], two pounds;
Wood-ſoot [ſ], one pound.

Boil

Upon the whole, it ſhould ſeem, that theſe preparations do not differ near ſo much from one another as they do from themſelves in different ſtates of purity; an obſervation which makes this note the more neceſſary, as it is not perhaps ſo much attended to in practice as it deſerves.

[p] This proceſs for making ſal-ammoniac, ſtands recommended in many pharmacopœias, and ſeveral chemical writings. This ſalt is ſaid to have been made after this manner, with ſome little variations only in the proportions of the ingredients, at *Antwerp*, *Venice*, and in *Germany*. But this report ſeems to have more of conjecture than of truth in it, as will appear probable from the following notes.

[q] Mr. *Geoffroy* * relates, that he obtained, by diſtillation, from human urine, after the volatile ſalt, &c. aroſe, ſome ſalt which exactly reſembled the ſal ammoniac of the ſhops: the quantity of this ſalt was extremely ſmall.

[r] *Boerhaave* informs us †, that in the diſtillation of wood-ſoot, after the volatile ſalt and oil have come over, if the fire be puſhed, a ſaline ſubſtance will concrete in the neck of the retort, and a cake of ſalt form upon the ſurface of the matter that remains at the bottom; which in colour, figure, manner of concretion, and degree of tranſparency, reſembles common ſal ammoniac; that like this ſalt, it makes no efferveſcence with acids; that mixed with fixed alcalies, it emits a pungent ſmell; and on being ſet to ſublime, yields a pure volatile ſalt.

[ſ] Sea ſalt does not appear to be of any manner of uſe in this proceſs. What perhaps has induced the contrivers to inſert it is, the obſervation, that when a volatile ſalt is ſublimed from ſal ammoniac mixed with fixt alcalies, a cubical ſalt, reſembling common ſalt in all

* *Mem. de l'Acad. roy. pour l'ann.* 1720.

† *Element. Chem.* proceſſ. 86.

its

Boil them together into a maſs; which put into proper ſubliming veſſels, and, with a fire gradually increaſed, ſublime the ſalt.

This ſalt may be rendered pure by diſſolving it in water, filtering the ſolution, and evaporating it to dryneſs; as alſo by repeated ſublimations.

It is brought to us, ready made, from abroad[t].

Spiritus ſalis ammoniaci.
Spirit of ſal ammoniac.

Take Sal Ammoniac,
Salt of Tartar, of each equal parts.

Grind them ſeparately to powder; then mix and put them into a glaſs retort, pouring thereon
of Water, as much as will be ſufficient to diſſolve the ſalts.

Let the diſtillation be performed in ſand, and continued till the ſalt which concretes in the receiver, is diſſolved by the aqueous liquor that comes over after it[v].

If

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its properties, remains at the bottom of the ſubliming veſſel.—But we ſee, that urine and wood-ſoot yield ſal ammoniac, without the addition of ſea-ſalt.

[t] Mr. *Geoffroy* informs us *, from the memoirs of father *Sicard*, publiſhed in the year 1723, that the makers of this commodity in *Egypt* ſublime it in large glaſs veſſels, about a foot and a half in diameter, from a mixture of camels urine, ſea ſalt, and the ſoot obtained from a particular kind of fuel called *gellee*, which is made of animal dungs mixed up with ſtraw. But later diſcoveries aſſure us, that this preparation is made from the ſoot of the abovementioned fuel alone, without any addition whatever.

[v] This proceſs may be ſomewhat more commodiouſly performed, by diſſolving the ſal ammoniac, and ſalt of tartar (or any other pure fixed alcaline ſalt) ſeparately in water, before they are put into the retort; the firſt requires ſomewhat more than double its quantity of water; the latter, a little more than equal its own weight. The di-

* *Tract. de Mat. Med.* tom. i. p. 145.

ſtillation

If the receiver be taken off before any moiſture ariſes, you will obtain

Sal ammoniacum volatile.

The volatile ſalt of ſal ammoniac [w].

Flos

ſtillation ſhould be performed with a very gentle heat, and continued no longer than till the greateſt part of the volatile ſalt is diſſolved.

Monſ. *Lemery* gives us a preparation, which he calls the ſweet ſpirit of ſal ammoniac, which we ſhall here inſert, as it has become of late greatly in uſe.

Take of ſal ammoniac, and any pure fixt alcaline ſalt, each four ounces. Grind them ſeparately into powder, and put them into a retort, pouring upon them a pint and a half of proof ſpirit. Draw off by diſtillation with a very gentle heat about one half of the ſpirit; or, continue the diſtillation ſo long, until the volatile ſalt, which has concreted in the receiver, begins to diſſolve. If the ſalt and ſpirit be diſtilled once or twice, or ſet to digeſt with a very gentle heat, in a well cloſed glaſs, ſhaking it now and then, the ſalt will entirely diſſolve.

We have taken the liberty of exchanging the ſpirit of wine directed by *Lemery*, for double the quantity of proof ſpirit, upon the preſumption that the aqueous parts of the latter will facilitate the action of the alcaline ſalt upon the ammoniacal, by diſſolving them both into one uniform fluid; and at the ſame time be ſo ſtrongly retained by them, as not to ariſe and mix with the ſpirit, unleſs a much greater degree of heat be employed than this proceſs requires.

This ſpirit is a very powerful menſtruum, with regard to ſeveral vegetable juices: it diſſolves in the cold a conſiderable quantity of gamboge *, takes up a large proportion of the reſin of bark, and likewiſe of gum guaiacum: the two laſt of theſe ſolutions have been for ſome time in great eſteem as medicines; and as ſuch, have been received in the *Pharmacopœia* of the royal college of phyſicians of *London*, now juſt publiſhed.

[w] The chemiſts, who prepare large quantities of the volatile ſalt of ſal ammoniac, (for which there is a conſiderable demand) in order

* *See Page* 33.

to

Flos ſalis ammoniaci.
Flowers of ſal ammoniac.

Take of dry Sal Ammoniac, in powder, what quantity you pleaſe.

Put it into an earthen cucurbit; and having fitted on a blind-head, ſublime the flowers with a fire gradually increaſed [x].

Spiritus Mindereri.
Mindererus's ſpirit.

to ſave expence employ common chalk, inſtead of fixed alcaline ſalts. The proceſs in greateſt eſteem is as follows.

Take of dry ſal ammoniac, in fine powder, three parts; of dry chalk, likewiſe in fine powder, one part. Rub them, in a marble mortar, well together, till they are perfectly mixed. With this mixture, fill one half of a retort which has a wide, ſtreight neck: place it in a ſand-furnace, ſo as almoſt to touch the bottom of the pot: then proceed to ſublimation, gradually increaſing the fire to the utmoſt degree, which this proceſs requires to be kept up for a conſiderable time. When the volatile ſalt is all come over, and the receiver grown cool, it may be taken from the retort, luted to another retort charged with freſh ingredients, and fire applied as before. This proceſs may be repeated, until the receiver is lined to a conſiderable thickneſs, with volatile ſalt; when it muſt be broken, in order to take out the ſalt.

Mr. *du Hamel* has given ſeveral curious obſervations and experiments, relating to the different methods of obtaining this preparation; to which we refer the reader *.

[x] Crude ſal ammoniac, as Mr. *du Hamel* † obſerves, is far from being equally pure. This preparation therefore is intended to purify and fit it for internal uſe. Whether the method of purifying this ſalt directed in the *London Pharmacopœia* be as good, can only be determined by experiment; for as heterogeneous ſalts may adhere to it in cryſtalliſation, ſo ſubſtances not very volatile may be ſublimed along with it.

* *Mem. de l'Acad. roy.* 1735.

† *Ibid.*

Take of the volatile ſalt of Sal Ammoniac, any quantity at pleaſure.

Pour upon it, by little and little at a time, ſtirring the mixture now and then,

of Spirit of Vinegar, as much as will be ſufficient;

that is, till the effervеſcence ceaſes[y].

Oleum ceræ.

Oil of wax[z].

Take of Wax, as much as you pleaſe.

Melt it with

Twice its quantity of Sand.

Put the mixture into a retort[a], which being placed in a ſand-furnace, proceed to diſtillation. At firſt an acid liquor[b] ariſes; and afterwards a thick oil[c], which ſticks in in the neck of the retort, unleſs it be warmed by applying a live-coal.

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[y] This neutral ſpirit is much in uſe. It was ordered in the laſt edition of this diſpenſatory to be made with ſpirit of ſal ammoniac: but as the ſpirit made with quicklime is more common in the ſhops than that directed by the college with a lixivial ſalt (which laſt is only proper for making this neutral ſpirit) the college have here prudently ordered the volatile ſalt, to prevent any ſuch miſtake.

[z] This preparation is grown pretty much out of uſe, upon account of its very diſagreeable ſmell.

[a] *Boerhaave* * directs the wax, being cut in pieces, to be put into a retort, ſo as to fill one half; when as much ſand may be poured thereon, as will fill the remaining half. This is a neater, and much leſs troubleſome way, than melting the wax, and mixing it with the ſand, before they are put into the retort.

[b] The aqueous liquor, which is obtained by diſtillation from wax, has a very unpleaſant ſmell, but ſo little acidity, as ſcarce to be perceived upon the palate.

[c] If the fire be increaſed, the remainder of the wax will entirely come over into the receiver, and appear of a ſomewhat harder conſiſtence than the oil which aroſe at firſt; this nevertheleſs falls con-

* *Elem. Chem. proc.* 36.

This may be rectified into a thin oil, by diſtilling it ſeveral times, per ſe, in a ſand-heat.

ſiderably ſhort of the conſiſtence of the wax, and likewiſe flows into a thinner liquor with a much gentler heat.

CLASS THE THIRD.

CHEMICAL PREPARATIONS OF MINERALS.

SECTION I.

PREPARATIONS *of* SALTS.

Spiritus ſalis.
Spirit of ſalt [a].

TAKE of Sea-ſalt, throughly dry, one pound;
Powdered Bricks [b], three pounds.

Mix,

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[a] This proceſs is exactly deſcribed in *Pract. Chem.* pag. 212.

[b] This method of extracting ſpirit of ſalt, by the uſe of earthy intermediums, has been laid aſide for a conſiderable time, as being founded upon the erroneous principle, that theſe ſubſtances act by diſcontinuing and powerfully dividing the particles of the ſalt, ſo as to enable the fire to expel the ſpirit. If this was really true, glaſs or ſand would prove as ſerviceable as powder of bricks, and the ſame powder

Mix, and put them into an earthen retort of ſuch a ſize, that the mixture may fill only one half of it. Place the retort in a reverberatory furnace, adapt it to a large receiver, and lute well the junctures. Let the fire be applied at firſt very ſparingly, and afterwards increaſed by degrees, untill all the ſpirits are driven over in the form of clouds. When the veſſels are grown cold, pour out the diſtilled liquor into a glaſs cucurbit; and gently abſtract from it the phlegm, which will leave the ſpirit pure [c].

Spiritus ſalis Glauberi.
Glaubers ſpirit of ſalt.

Take of Sea-ſalt, dried [d] and powdered, two pounds;

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powder would do as well ſeveral times as at firſt; the reverſe of which, experiments ſhew to be true. Brick-earth contains a ſmall quantity of vitriolic acid; and it is the known property of this acid, powerfully to diſengage the earthy part of ſea-ſalt from its own proper acid; which being ſet at liberty, is eaſily propelled with a ſmall degree of fire. The quantity therefore of ſpirit obtained by theſe kinds of intermediums is only in proportion to that of the acid contained in them; which being exceeding ſmall, can avail but little, and not near counterbalance the inconvenience which ariſes from the earthy part. This has occaſioned ſome to make uſe of vitriol, as containing a large quantity of the vitriolic acid: But although vitriol is, in this reſpect, greatly preferable to brick-duſt, tobacco-pipe-clay, and the like matters; yet, in another, it is found leſs eligible; the metallic part ſo ſtrongly adheres to the acid of ſea ſalt, as to keep it down after it is ſeparated from its earth; or elſe ariſes along with it, and defiles the product.

[c] If the ſpirit obtained by this proceſs be deſired perfectly pure, it ſhould, after the phlegm is drawn off, be diſtilled a ſecond time, when a portion of earthy matter, which comes over with the ſpirit, will be found at the bottom of the retort.

[d] The drying of the ſea ſalt appears to be an unneceſſary part in this proceſs; ſince water is ordered to be added to it immediately afterwards.

Oil of Vitriol, one pound[e];
Water, as much as is ſufficient to diſſolve the ſalt[f].

Put them into a glaſs retort, and diſtill, in a ſand-heat, to dryneſs[g].

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[e] The chemiſts in general are very much undetermined as to the exact proportion which the vitriolic acid ought to bear to the ſea ſalt in this proceſs. Moſt of them order more than the quantity here preſcribed; though ſome few direct leſs. Among the latter is *Boerhaave*, who puts three parts of the ſalt to one of the vitriolic acid *. A later writer is of opinion, that this quantity is ſtill too great; and directs only two parts of the acid to ſeven of the common ſalt. By this proportion, ſays he, the whole quantity of ſpirit will be extricated, ſo as to ariſe in diſtillation, and the remainder prove a true neutral ſalt †. Some experiments, which we have made, with a view to determine this affair, favour this aſſertion, while ſome others make the quantity of ſea ſalt an over-proportion. This uncertainty probably ariſes from different qualities in the ſea ſalt employed; and from the ſtrength of the vitriolic acid not being preciſely determined. In general, the proportion of one to three may be looked upon as the moſt eligible, provided the oil of vitriol is tolerably good, and the ſmall grained common ſea ſalt be made choice of, in the ſtate we uſually receive it from the ſhops.

[f] If as much water be added as is neceſſary to diſſolve the ſalt, without the aſſiſtance of the vitriolic acid, the ſpirit will turn out too phlegmatic and weak for the purpoſes it is generally deſigned. The quantity ſhould therefore be reduced, unleſs the operator chooſes to be at the trouble of dephlegmating the ſpirit, by abſtracting ſo much of the aqueous fluid, as may leave it of a due ſtrength.

[g] A good deal of care and addreſs is neceſſary, to conduct this proceſs with ſafety. The method which we would recommend is, to put the water into a ſtone-ware veſſel, and then to add to it the oil of vitriol by degrees. When the mixture is grown ſomewhat cool, it may be poured upon the ſalt already placed in the retort, and the diſtillation immediately proceeded on; care being taken, ſo to ma-

* *Element. Chem. proceſſ.* 143.

† *Cartheuſer, Elem. Chem. dogmat. & experiment. p.* 43.

Sal mirabile Glauberi.
Glaubers wonderful ſalt.

Take what remains in the retort after the diſtillation of Glaubers Spirit of Salt.

Diſſolve it in

A ſufficient quantity of Water.

Filter the ſolution through paper, and evaporate it till a pellicle appears on the ſurface: then ſet it by for ſome days in a cold place, that the ſalt may cryſtallize; ſeparate the cryſtals from the corroſive liquor, and afterwards dry them for uſe.

If theſe cryſtals prove too ſharp, diſſolve them again in water, filter the liquor, and cautiouſly evaporate it to ſuch a pitch only [h], as may diſpoſe the ſalt to cryſtallize [i].

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nage the fire, as to prevent the matter from boiling over, or the fumes ariſing ſo faſt as to endanger the receiver.—See the method of diſtilling a very ſtrong ſmoking ſpirit of ſalt, without the addition of any water, in *Pract. Chem.* pag. 214; to which the reader is likewiſe referred, if he deſires fuller directions for managing the above proceſs.

[h] This point may be exactly hit, by taking out a little of the ſolution, at different times of the evaporation, and pouring it upon a cold marble or glaſs plate; if the matter be diſpoſed for cryſtallization, it will, in leſs than a minute, manifeſt ſaline ſpicula.

[i] In the proceſs above, a great deal of care is taken to prevent the ſalt from being too acid, an inconvenience which often happens from the over-care of the chemiſts to make the cryſtals beautiful and large, a circumſtance which depends not a little upon the quantity of the vitriolic acid; for if this be uſed in the ſmaller proportions mentioned in the foregoing note [e], the produce of cryſtallized ſalt will not only fall far ſhort of the amount expected, but the cryſtals prove too ſmall for a marketable commodity. Nevertheleſs, we cannot but heartily recommend the caution given above, ſince it is unpardonable to prefer the elegancy of the appearance of a medicine, to its real utility and ſafety.

Spiritus ſalis dulcis.
Dulcified ſpirit of ſalt.

Take of Rectified Spirit of Wine, three parts.

Put it into a large bolthead, and gradually add thereto
of Spirit of Salt, one part.

Digeſt theſe together for ſome days; and then diſtill in a ſand-heat, according to art; taking care, towards the end of the operation, that the retort break not from too great a heat [k].

Sal prunellæ.
The ſalt prunella.

Take of the pureſt Nitre, reduced to powder, two pounds.

Melt it in a crucible, and ſprinkle into it, by little and little at a time,
of Flowers of Sulphur, one ounce.

When the deflagration is over, pour out the melted ſalt upon a clean, dry and warm braſs plate, ſo as to form it into cakes [l].

Sal

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[k] The two ſpirits deſigned for making this preparation ſhould be exceeding ſtrong; if either of them is phlegmatic or weak, the union of the two, and conſequently the medicine, will be the leſs perfect.—Upon dropping the acid ſpirit into the vinous, a ſmall ebullition, attended with a degree of warmth, will enſue; but this depends upon both ſpirits being of a due ſtrength. Some chemiſts * direct the digeſtion to be continued, till the acid ſeems to have loſt almoſt all its acrimony; and then to proceed to diſtillation: or, inſtead of digeſtion, to cohobate the ſpirit three times. A water-bath is greatly preferable to a ſand-heat for diſtilling this ſpirit; for as in the former, the degree of heat is limited, and incapable of raiſing ſpirit of ſalt alone, we may be always ſure of drawing off no more of the acid, than is perfectly united with the vinous ſpirit.

[l] This preparation of nitre was formerly in great eſteem, and is ſometimes ſtill ordered in preſcription, which occaſions its keeping a

* *Pott. de Acid. Sal. vinoſo.*

Sal polychreſtum.
Salt of many virtues.

Take Nitre, in powder,
Flowers of Sulphur, of each equal parts.

Mingle them well together, and inject the mixture, by little and little at a time, into an ignited crucible. After the detonation ceaſes, keep the crucible in the fire for an hour.

The ſalt may be purified by diſſolving it in warm water, filtering the ſolution, and exhaling it to dryneſs [m].

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place here. The proceſs is built upon an erroneous foundation, which ſuppoſed that the nitre was purified by the deflagration it undergoes upon injecting a little ſulphur upon it. But from proper experiments it appears, that the ſulphur is ſo far from depurating the nitre from any accidental impurities, or tending to its improvement as a medicine, that it really alters ſome part of it into a ſalt which has quite different properties; and therefore, as far as ſo little a portion of ſulphur can go, changes it for the worſe. Hence *Boerhaave* * directs the nitre intended for making ſal prunell, to be purified after the common method, and then to be melted by itſelf, and poured out into moulds: The fuſion here brings the ſalt into a leſs compaſs, by evaporating the aqueous moiſture, which has concreted with it in its cryſtallization; and likewiſe more effectually aſcertains the doſe; for nitre is found to contain more or leſs of water, according to the manner in which it is kept, and its degree of dryneſs, which is not apparent to ſight.

Thoſe who prepare ſal prunell in large quantities, make uſe of a clean iron pot, inſtead of a crucible; and when the nitre is melted, and the ſulphur deflagrated, take out the ſalt with an iron ladle, and pour it into braſs moulds kept for this purpoſe.—The previous pounding of the nitre, directed above, may be as well omitted, as occaſioning a needleſs trouble.

[m] This ſalt does not greatly differ from ſeveral preparations which may be afforded at a cheaper rate, as is well known in the ſhops; and little deſerves the pompous title, which the chemiſts have given it.

* *Elem. Chem. proceſſ.* 132.

Spiritus nitri.
Spirit of nitre.

This Spirit is diſtilled from Nitre, in the ſame manner as ſpirit of Salt [n].

Spiritus nitri dulcis.
Dulcified ſpirit of nitre.

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[n] The proceſs for drawing ſpirit of ſalt here referred to, I ſuppoſe is that after *Glaubers* manner, with the addition of oil of vitriol; tho', by his name being left out of the title, it ſhould rather ſeem to be the firſt ſpirit, diſtilled from dry common ſalt, mixed with three times its weight of brick-duſt; proceſſes nearly ſimilar to which, are given under the ſubſequent preparations of *ſingle* and *double aqua fortis.* The celebrated profeſſors *Boerhaave* and *Hoffmann,* differ very much from one another, not only in the manner of conducting the proceſs for obtaining a pure ſpirit of nitre, but likewiſe vary in the proportion of the materials. *Boerhaave* * directs three parts of dried nitre to be mixed with one of ſtrong oil of vitriol; while *Hoffmann* † orders them in equal quantities. The firſt directs the fire to be gentle at the beginning, but to be increaſed to a very high degree towards the cloſe of the proceſs; while the latter finiſhes the whole with a moderate heat. *Boerhaaves* method ſeems beſt calculated to ſave expence, and anſwer the purpoſes of trade; while *Hoffmanns* regards rather the quality of the product than its quantity, or any other conſideration. Hence the latter judiciouſly obſerves, that the deep red colour which ſome look upon as a mark of ſtrength in ſpirit of nitre, ariſes from the impurity of the ſalt or acid employed; and that the paler ſpirit only is to be choſe for medicinal or other nice uſes.

We have already given ſome general cautions and directions for managing this proceſs in our preceding note upon *Glaubers* ſpirit of ſalt, to which we refer. But if the reader deſires fuller inſtructions with regard to the apparatus, &c. he may conſult *Pract. Chem.* pag. 199.

* *Elem. Chem. proceſſ.* 134.

† *Obſ. Phyſico-Chym. Lib.* ii. *Obſ.* 3.

This

This is made with Spirit of Nitre, after the ſame manner as dulcified ſpirit of ſalt °.

Aqua

° This celebrated preparation has at length obtained a place in moſt diſpenſatories, and is, when well made, deſervedly looked upon, by pharmaceutical writers, as a medicine of importance. Nevertheleſs, the proceſs for making of it, and the proportions of the ingredients, are ſet down very differently [*]. *Hoffmann* [†] ſeems to have conſidered the affair thoroughly, and with his uſual accuracy has minuted down every circumſtance neceſſary to be obſerved in its preparation. The ſhops have been accuſtomed to mingle one part of ſpirit of nitre with three parts of inflammable ſpirit, without much regarding the degree of purity or ſtrength of either of the ingredients. But the above-mentioned author rightly obſerves, that three parts of highly dephlegmated ſpirit of wine are not ſufficient to dulcify one part of pure, ſtrong ſpirit of nitre; and that if either of them is phlegmatic or weak, the union of the two can be by no means ſo perfectly compleated, as to produce a truly dulcified ſpirit. Hence, upon diſtillation, the inflammable ſpirit ariſes, and leaves great part of the acid at the bottom of the diſtilling veſſel. He therefore orders one part of ſtrong ſpirit of nitre to be poured into eight parts of highly rectified ſpirit of wine; and obſerves, that this mixture being ſet to diſtill, totally ariſes in a gentle heat. The preparation made after this manner (eſpecially if the matter be digeſted for ſome time, before the diſtillation is performed) manifeſts ſo little acidity, as really to deſerve the name of a dulcified ſpirit; and differs greatly from that uſually met with in the ſhops, in point of fragrancy as well as taſte.

There are ſome circumſtances to be obſerved in the mixture of theſe two liquors, as well as in the diſtillation of them when mixed, which highly deſerve notice; ſince a ſlight error may not only occaſion the loſs of the whole, but, if the quantities are large, greatly endanger at leaſt the health of the operator. Thus if, inſtead of prudently dropping in the ſpirit of nitre to the ſpirit of wine, the latter be poured by little and little upon the former, a moſt vio-

[*] *Pract. Chem.* p. 203.

[†] *Ubi ſupra, Obſ.* 4.

lent

Aqua fortis ſimplex.
Single aqua fortis.

Take of Vitriol calcined [p] to whiteneſs, two parts;
Nitre in powder, one part.

Mix them very well together, and fill therewith an earthen retort to two thirds; then fit on a large receiver, and proceed to diſtillation; which is to be performed after the ſame manner as is directed for ſpirit of ſalt [q].

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lent effervefcence will ariſe, and the whole mixture be inſtantly diſperſed in noxious red fumes. It is true, this phænomenon does not, as ſome have remarked, unavoidably happen; but may, with proper addreſs, be prevented.

The diſtillation likewiſe of this ſpirit, if immediately attempted without any previous digeſtion, ſhould be conducted with a very ſlow and wary heat, to prevent the matter from running ſuddenly into ſo violent a degree of ebullition, and the vapour expanding with ſo great force, as to burſt the diſtilling veſſels. Hence ſome, who have probably experienced the truth of this obſervation, order the junctures not to be luted at all, or but ſlightly: And hence probably the caution given above in the diſtillation of ſpirit of ſalt. We would recommend the diſtillation to be performed with the heat of a water-bath; for this, in caſe the acid ſhould ever be in an over proportion to the vinous ſpirit, will only propell ſo much of the former as is perfectly united with the latter.

Mr. *Lemery* lays it down for a rule, that the dulcification of ſpirit of nitre depends entirely upon its effervefcing with the vinous ſpirit; which either, ſays he, evaporates the more ſubtile parts of the acid, or breaks their edges. Hence he directs the mixture to be made in an open veſſel, placed under a chimney to carry off the fumes. By this unſcientifical procedure, he obſerves that he uſually loſt half his liquor; and we may venture to ſay, that the remainder was not the medicine intended in this proceſs.

[p] The calcination here directed, is in order to ſeparate ſome of the phlegm of the vitriol, that the aqua fortis may prove ſufficiently ſtrong for the purpoſes it is intended.

[q] The great demand which there is in ſundry buſineſſes for aqua fortis, has made the preparation of it become a trade by itſelf.

Aqua fortis duplex.
Double aqua fortis.

Take of Green Vitriol, calcined to whiteneſs,
Clay, dried and powdered,
Nitre, in powder, each equal parts.

Having mixed theſe ingredients well together, fill

Hence larger and leſs expenſive inſtruments than retorts have been contrived. The common diſtilling veſſel employed for this purpoſe is a large iron pot, (like that made uſe of for diſtilling of hartſhorn) with an earthen or ſtone-ware ſtill head ; to which is adapted a large glaſs globe, or elſe a jar, made of the ſame clay as the head. The common workmen are not at the trouble either of drying the vitriol or pounding the nitre, but throw them both promiſcuouſly into the pot, where the fire liquefying the vitriol, ſoon mixes it with the nitre. The aqua fortis prepared after this manner is extremely impure, and utterly unfit for many purpoſes ; ſuch in particular are, the ſolution of mercury and of ſilver. This impurity is occaſioned by the violence of the fire employed in the operation, which never fails to elevate ſome of the metallic parts of the vitriol ; and by the makers uſing rough or unrefined nitre, which containing a portion of ſea ſalt, ſends over ſome of its ſpirit along with the nitrous acid : to which may be added, that theſe ingredients are ſeldom free from bits of wood and other vegetable matters, which burning towards the end of the proceſs, foul the ſpirit with an empyreumatic oil, giving it at the ſame time a high colour. If therefore common aqua fortis be employed in any medicinal preparation, it ſhould be purified by a careful rectification in glaſs veſſels ; a ſmall quantity of a ſolution of ſilver being previouſly added to it, which will detain the marine acid from ariſing again, and diſturbing the purity of the aqua fortis, and keep it at the bottom of the diſtilling veſſel along with the other impurities.

If it be admitted that one pound of oil of vitriol is barely ſufficient for three of nitre, then the calcined vitriol ordered above falls conſiderably ſhort of its due quantity, to extricate all the ſpirit which the nitre is capable of yielding.

therewith an earthen retort to two thirds, and diſtill as in the foregoing proceſs [r].

Aqua Regia.

Aqua Regia.

Take of Sal Ammoniac, reduced to powder, one ounce. Put it into a large cucurbit, and add thereto, by little and little at a time,

of Spirit of Nitre, or Double Aqua fortis, four ounces.

Let them ſtand together in a ſand-heat, till the ſalt is entirely diſſolved [ſ].

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[r] This proceſs has been long received in the ſhops; but is nevertheleſs a very unartful one. The clay, containing much leſs acid than vitriol, is not near ſo proper an intermedium. It ſhould ſeem therefore more eligible to omit the firſt, and increaſe the quantity of the latter; which, in order to make the aqua fortis of the ſtrength here intended, ſhould undergo a further degree of calcination.

The method which we would recommend for making this preparation is as follows:—Take of vitriol, calcined till it has acquired a yellowiſh colour inclining to red, two pounds and a half; of refined nitre dried, one pound. Reduce them ſeparately into very fine powder; then mix them exactly together, and proceed to diſtillation, gradually increaſing the fire, until the red vapour ceaſes to condenſe, and run in ſtreams down the ſides of the recipient.

[ſ] The glaſs in which the mixture is made, ſhould be placed under a chimney (to carry up the offenſive vapour) and its orifice by no means ſtopt, until ſuch time as the ſalt is perfectly diſſolved, and the fumes ceaſe to ariſe with impetuoſity. Theſe cautions are extremely neceſſary, if this proceſs be conducted according to the directions above. But if the ſal ammoniac be finely powdered, and gradually added to the acid ſpirit (which ought to be of a middle degree of ſtrength between ſingle aqua fortis and ſtrong ſpirit of nitre) the ſolution will proceed without any inconvenience; and may be finiſhed in a reaſonable compaſs of time, provided the mixture be now and then ſtirred.

An excellent aqua regia may be likewiſe made by diſtilling good aqua fortis from half its weight of common ſalt.

Vitriolum calcinatum.
Calcined vitriol.

Expoſe any quantity of powdered Green Vitriol, in an unglazed earthen veſſel, to the action of a moderate fire, till it becomes white; keeping the matter continually ſtirring, to prevent its ſticking to the veſſel, and acquiring a ſtony conſiſtence. If this be urged with a more vehement fire, it paſſes into a deep red ſubſtance called Colcothar Vitrioli, *or Colcothar of Vitriol*[t].

Gilla vitrioli.
Salt of vitriol.

Take of White Vitriol, as much as you pleaſe.
Diſſolve it in
a ſufficient quantity of warm Water.

Paſs the ſolution through a filter, and evaporate it to the conſumption of two thirds: Set the remainder

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[t] The calcination of vitriol, according to the above method, is ſufficiently troubleſome: For unleſs the heat be very gentle, and the matter ſpread very thin over the bottom of a broad, ſhallow veſſel, it is almoſt impoſſible to avoid melting it, and making it adhere to the ſides of the pan; which renders the pulveriſation directed above, an uſeleſs labour. The common method which the chemiſts employ, is, to place a deep earthen pan almoſt filled with vitriol unpounded, upon a gentle fire: the vitriol will ſoon liquefy, and by degrees incruſtate to the ſides of the veſſel; when the fire may be increaſed, till the aqueous moiſture ſeems evaporated; by this time, it will have concreted all into one lump, of a whitiſh colour, except on the outſide next the pan (which muſt be broken, to take it out) where it will appear of a yellowiſh or reddiſh colour, according to the continuance and degree of fire employed.

If the vitriol is deſired to be ſtill farther dephlegmated; this may be commodiouſly performed, by reducing the maſs to a groſs powder (which will now no longer melt as before) and then calcining it over a ſtrong fire, in a ſhallow iron pan, till it has got the degree of dryneſs required, which may be known by the colour it has aſſumed.

in

in a cold place for two days, that cryſtals may form themſelves on the ſides of the veſſel; which are afterwards to be dried in the ſun [v].

The remaining liquor may be farther evaporated, and ſet to cryſtallize as before; and this proceſs repeated, until no more ſalt will ſhoot.

Spiritus & oleum vitrioli.
Spirit and oil of vitriol.

Take of Green Vitriol, calcined to whiteneſs [w], and reduced to powder, what quantity you pleaſe.

Fill therewith one half of an earthen retort [x], place it in a reverberatory furnace, fit on a very large receiver, and lute well the junctures. Then proceed to diſtillation, gradually increaſing the fire to the utmoſt

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[v] There is an inconvenience attending the preparation of this ſalt, which is, that when the ſolution is duly exhaled, and ſet to ſhoot, a yellow matter ſubſides, which fouls the cryſtals. Hence ſome * direct the vitriol to be diſſolved in as much water as will ſerve to keep it ſuſpended (which is ſomewhat leſs than thrice its own weight) and the ſolution to be ſet by, till the feces have ſubſided; when it is to be carefully poured off, filtered through paper, and after due exhalation removed into a cold place to cryſtallize.

[w] Unleſs the vitriol be calcined longer than here directed, it will become in the diſtilling veſſels a hard, compact maſs; from which the due quantity of acid can never be obtained, though urged with the moſt vehement fire for a great length of time. The moſt expert operators continue the calcination of the vitriol, until it become a yellowiſh maſs inclining to red, which they carefully keep from the air, till they have occaſion to uſe it †.

[x] A retort is a very inconvenient inſtrument for this purpoſe; for it requires an extraordinary expence of fuel and time to elevate the ſluggiſh vapour of this concrete ſo high as the figure of this veſſel demands.

* *Pract. Chem. pag.* 146.

† *Ibid. pag.* 145.

degree,

degree, which is to be kept up as long as any vapours ariſe [y].

The phlegm, ſpirit and oil may be ſeparated from each other, by committing the whole to diſtillation in a retort placed in a ſand-furnace. The phlegm will ariſe with a ſmall degree of heat, and the ſpirit with a ſtronger, leaving the oil behind [z].

The maſs which remains in the retort, after the firſt diſtillation, is called Colcothar.

Spiritus vitrioli dulcis.
Dulcified ſpirit of vitriol.

Take of Rectified Spirit of Wine, four pounds.
Cautiouſly drop into it, by little and little at a time,
of Oil of Vitriol, ſix ounces.

Digeſt them together for three days; and then diſtill, according to art [a].

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[y] *Boerhaave* informs us ‡, that the white vapour will not entirely ceaſe to ariſe, although the fire ſhould be ever ſo long and vehemently urged. He likewiſe obſerves, that after the diſtillation has been continued for a certain time, which he limits to eighteen hours, the ſpirit that ariſes will not pay the expences attending it: But regard muſt be had herein to the ſize of the furnace, the quantity of calcined vitriol in each diſtilling veſſel, and the degree of heat employed. The makers of this commodity are ſenſible of the juſtneſs of this obſervation; and therefore continue the fire no longer than till the fumes which iſſue from the long necks at the greateſt diſtance from the fire, begin to leſſen, and the recipients grow ſomewhat clear.

[z] The diſtillation of vitriol is not practicable to any advantage, without a very large apparatus. Hence it is become a diſtinct branch of the chemical buſineſs; and conſiderable works have been erected in ſuch parts of the kingdom, as fuel can be moſt eaſily procured in. Some of the furnaces employed for this purpoſe are ſo large as to contain an hundred earthen long-necks, or diſtilling veſſels, at once.

[a] The chemiſts differ greatly about the proportion which the vinous ſpirit ought to bear to the vitriolic acid, in the preparation of this

‡ *Elem. chem. proceſſ.* 206.

celebrated medicine. Some experiments, made in order to ſettle this point, ſeemed to conclude in favour of the proportion ſet down above. But as we are not thoroughly ſatisfied ourſelves in this reſpect, we chooſe to lay them before the reader; which will afford us an opportunity of deſcribing the requiſite apparatus, and giving the neceſſary cautions, for performing this nice proceſs with ſucceſs.

One pound of ſtrong and well rectified oil of vitriol was let fall, by a few drops at a time, into a pint of highly dephlegmated ſpirit of wine contained in a glaſs bolthead. The mixture ſoon grew very hot, and upon ſtanding for twenty-four hours, had acquired a very dark colour. It was then poured into a retort with a very long neck, whoſe body was capable of containing at leaſt four times the quantity; and the retort being ſet upon a little ſand in a proper furnace, a large tubulated recipient was fitted to it, and placed in ſuch a manner, that its pipe might convey the matter which ſhould come over, immediately into a phial ſet underneath it. The juncture of the retort and recipient was carefully luted with a paſte made of linſeed-meal, which was farther ſecured by a wet bladder: the lower juncture was only cloſed with ſome ſoft wax, that the phial might be occaſionally removed with eaſe.

The apparatus thus adjuſted, a very gentle fire was applied for ſeveral hours. A volatile ſpirit ſoon aroſe; and, condenſing upon the ſides of the recipient in ſtriæ, ran down into the phial. When about half a pint of liquor had come over, white vapours began to appear; upon which the phial was removed, and another placed in its room. The fire being at this time ſomewhat raiſed, the white vapours came over very copiouſly: theſe did not run down the ſides of the recipient, like the firſt ſpirit, in ſtreight ſtriæ; but either formed irregular ſtreams, or were collected into round drops. When about an ounce and a half of liquor had diſtilled, the remainder, now grown extremely black and viſcid, began to ariſe haſtily; in order therefore to prevent its fouling the neck of the retort, or paſſing into the recipient, they were both immediately removed from the fire.

The liquor which diſtilled at firſt, being examined, was found colourleſs, very volatile, extremely odorous, inflammable, and being taſted, proved ſomewhat aromatic: in ſhort, it in all reſpects agreed with the deſcription uſually given of ſweet ſpirit of vitriol. The ſecond liquor had ſwimming upon its ſurface a ſmall quantity of light yellow oil, whoſe odour was extreamly ſtrong, and highly agreeable; the liquor itſelf ſmelt exceedingly pungent, like the fume of burning ſulphur: and being taſted, proved notably acid.

In order to try whether the remainder in the retort was not ſtill capable of making the ſame change upon a freſh quantity of ſpirit of wine, as it had done upon that already employed, we added to it as much ſpirit as at firſt, and repeating the diſtillation, obſerved the ſame phænomena as before. Upon examining the liquors, they were found to perfectly agree with the former, except that we now gained a much larger quantity of oil.

This ſucceſs occaſioned the experiment to be again repeated with another freſh quantity of ſpirit of wine, which yielded the ſame phænomena, and the ſame kind of liquors, but in different quantities: the oil in particular was double of what we obtained in the laſt diſtillation; the whole amounted to about an ounce and a half.

We intended to have repeated the proceſs a fourth time; but were prevented by a piece flying out of the retort, juſt below the ſurface of the matter, as it began to riſe. What remained in the retort was ſtill acid; and that part which iſſued out at the fracture (which it did with great violence) corroded a piece of marble which it had fell upon.

We are informed, that the above accident frequently happens; but apprehend it may be eaſily prevented, by adding to the mixture, before diſtillation, about double its weight of fine, dry ſand, or pounded glaſs. If the two ſpirits be proportioned to each other in the manner directed above by the college, the diſtillation may be conducted with leſs danger; care only being taken, to keep on a low, gentle, equable heat all along, and to remove the veſſels, as ſoon as ever there is the leaſt appearance of a white vapour, or of a black ſcum ariſing. If the reader deſires any further ſatisfaction with regard to this affair, he may conſult *Hoffman* *, *Pract. Chem.* † and *Pharm. Reform.* ‡

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* *Obſerv. Phyſico-Chem. Lib.* ii. *Obſ.* 13.

† *Pag.* 149.

‡ *Pag.* 62.

Take

Take Colcothar of Blue Vitriol [b] well edulcorated
with Water, and afterwards dried,
Sal

[b] The invention of this preparation is univerſally attributed to Mr. *Boyle*, who, in his writings, informs us, that in proſecuting an attempt to obtain a medicine of ſimilar nature to that made by *Helmont* in imitation of *Butlers ſtone*, he fell upon this, which he named *Ens primum veneris*, not out of a belief that it equalled the virtues aſcribed by *Helmont* to what he calls the true *Ignis veneris*, but for the minerals ſake from which it was made *.

Notwithſtanding this, and many other ſtrong expreſſions, by which the illuſtrious inventor has declared that his medicine was prepared from vitriol whoſe baſis was copper; ſome have been of opinion, that it was originally made of a chalybeate vitriol by Mr. *Boyle*; and that when he propoſes *Hungarian* vitriol as the moſt eligible for this preparation, he either did not mean what has been generally underſtood by it, the common blue vitriol, or muſt never have made the preparation with it himſelf. This preſumption is grounded upon the account which Mr. *Boyle* himſelf gives of the red colour which the vitriol he uſed, acquired in calcination, and the yellow or reddiſh colour of the ſublimate, with its property of turning tincture of galls to an inky blackneſs †, neither of which appearances are ſaid to happen when blue vitriol is made choice of.

On the other hand, the author of the *Pharmacopœia Reformata* poſitively aſſerts, that he has not only ſeen this medicine, when prepared from blue vitriol, exactly anſwer Mr. *Boyles* deſcription, particularly with regard to the circumſtances abovementioned ‡; but that upon this occaſion he prepared it himſelf, from common blue vitriol, and found the proceſs not at all to differ from what he had formerly ſeen; that the vitriol when calcined, was of a dark red colour; that the ſublimate, which aroſe after ſome white flowers, was manifeſtly yellow, without any tinge of green or blue; and that a little of it changed an infuſion of galls into an inky blackneſs ‖.

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* *Uſefulneſs of Nat. Philoſ. Part* 2. *Sect.* 1. *Chap.* 6.

† *Boyle's experiments and notes about the mechanical origin and production of volatility, Chap.* v.

‡ *Pharm. Reform. p.* 77.

‖ *Append. pag.* 312.

Sal Ammoniac, of each equal quantities.

Reduce them ſeparately into powder; then mix, and put them [c] into an earthen cucurbit, ſo as to fill two thirds thereof: place the cucurbit in an open fire, and having adapted to it a glaſs blind-head, adminiſter at firſt a gentle heat, which is to be increaſed by degrees [d], and continued as long as the flowers ariſe of a yellow colour, inclining to red; when the veſſels are grown cold, let the flowers be carefully ſwept out with a feather.

Lapis medicamentoſus.
The medicinal ſtone.

Take Colcothar of Vitriol,
Roch-alum,
Litharge of Gold,
Bole Armenic, of each equal parts;
Beſt Vinegar, as much as will cover the whole to the height of four inches.

Let theſe ingredients digeſt together for two days, in an earthen pan; then ſet them over the fire, that all the humidity may evaporate; after which, calcine the remaining maſs with an intenſe heat.

It appears probable, from the manner in which theſe two proceſſes are related, that the firſt failed of ſucceſs, for want of exactly following the inventors directions in every minute circumſtance, which the latter more carefully obſerved.

[c] The ſal ammoniac ſhould be well dried, and exquiſitely mixed, by long triture, with the colcothar, before they are put into the ſubliming veſſel.

[d] After the veſſels are become thoroughly hot, the fire may conveniently be raiſed as quick as poſſible. Upon this circumſtance, the deepneſs of the colour of the flowers in good meaſure depends.

SECTION

SECTION II.

PREPARATIONS

OF

SULPHUREOUS SUBSTANCES.

Flores ſulphuris.
Flowers of ſulphur.

TAKE of Yellow Sulphur, groſly powdered, any quantity at pleaſure.

Put it into an earthen cucurbit placed in a ſand-furnace; and having fitted on a glaſs blind-head, or inverted into it another earthen cucurbit, begin the ſublimation with a gentle heat, which may be afterwards increaſed. The flowers will ariſe into the uppermoſt part of the veſſels, from whence they are to be ſwept out for uſe [a].

Oleum

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[a] The ſublimation of flowers of ſulphur is not practicable to any advantage in the uſual earthen or glaſs veſſels; but requires a larger apparatus. Hence the apothecaries rarely attempt this proceſs themſelves; but leave it to ſome particular people who have conveniencies for it. See a deſcription of the apparatus, with the method of conducting the operation, in *Practic. Chemiſt.* pag. 160.

The matter which remains at the bottom of the ſubliming veſſel after the flowers have riſen, is a ponderous, compact maſs, of a grey colour:

Oleum vel ſpiritus ſulphuris per campanam.

Oil or ſpirit of ſulphur by the bell.

Take of Sulphur reduced to powder, what quantity you pleaſe.

Put it into an earthen diſh, placed upon an inverted crucible: ſet them both together upon the bottom of a large earthen veſſel, in a moiſt place, ſcreened from the wind: then ſet fire to the ſulphur with a red hot iron, and hang over it a glaſs bell, at ſuch a diſtance, that the flame may not touch it. The vapour of the ſulphur will condenſe in the bell by the cold, and trickle down from its ſides, like water, into the veſſel placed underneath [b].

Hepar

colour: it appears to be compoſed of ſand, earth, ſtony, and ſometimes metallic matters, mixed with other impurities, and a ſmall portion of ſulphur that has eſcaped the ſubliming heat. This is uſually broke into pieces, and vended in the ſhops under the name of *ſulphur vivum.*

The flowers of ſulphur are ſometimes found to be conſiderably acid, according to the different qualities of the ſulphur itſelf, or ſome accidental circumſtance in the ſublimation. Hence ſome direct them to be waſhed in warm water, in order to fit them for internal uſe; by this means the griping quality, which ſometimes accompanies the uſe of this preparation when unwaſhed, is prevented *.

[b] The proceſs, as above directed, is exceeding tedious, which is chiefly owing to a defect in the apparatus. Mr. *Homberg* † has contrived a better, which is recommended by *Boerhaave* ‡; and in the *abridgment* of the *Medical Eſſays* of the ſociety at *Edinburgh* ‖, a more convenient one than either is fully deſcribed, which we ſhall here inſert with ſome improvements.

* *Pharm. Reform. pag.* 73.

† *Mem. de l'Acad. roy. ann.* 1703.

‡ *Elem. Chem. proceſſ.* 151.

‖ *Vol.* 1. *pag.* 160.

Hepar ſulphuris.
Liver of ſulphur.

Take of Flowers of Sulphur, four ounces;
Salt of Tartar, in powder, one ounce and a half.

Let

“ Take a large retort, with a round hole in its bottom, of ſix “ inches diameter: ſuſpend this by the neck, in ſuch a manner, “ that you may eaſily come at the bottom: immediately under the “ hole, upon a glaſs mortar, place a concave glaſs plate, perforated “ in the middle, and upon the perforation invert a gally-pot, which “ is to ſupport a crucible containing three ounces of flowers of ſul-“ phur. To the neck of the retort, which ſhould be pretty wide, “ adapt a large tubulated receiver, with its pipe placed uppermoſt. “ Light the ſulphur with a bit of charcoal, and put it juſt within “ the orifice at the bottom of the retort: when the ſulphur is con-“ ſumed, place the ſame quantity of new lighted ſulphur in another “ crucible; and thus proceed, till as much acid is obtained as is re-“ quired.

“ In this proceſs it is obſervable (1.) That it is neceſſary to bedew “ the glaſſes with the ſteam of boiling water, before you ſet fire to “ the ſulphur. (2.) That the operation ſucceeds beſt in calm, ſtill, “ wet weather, and in a damp place: in dry weather, the defect of “ the moiſture of the air may be ſupplied by conveying the “ ſteam of boiling water to the orifice in the bottom of the re-“ tort; afterwards the liquor may be dephlegmated to any degree “ of ſtrength by evaporation. (3.) That by the make and poſition “ of the glaſſes, the acid fumes are continually riſing into them; “ inſomuch that they ſoon grow opaque with clouds, which in a ſhort “ time condenſe, and trickle down the ſides of the glaſſes in drops. “ (4.) That the ſulphur has air enough to burn clearly, for want of “ which, the acid would be ſpoiled by a great quantity of fuligi-“ nous matter, which would be elevated, and ſtick to the ſides of “ the glaſſes.

“ A pound of flowers of ſulphur, which may be burned in ſeven “ or eight hours, will yield by this method, upon the moſt mode-“ rate computation, ſeven drams, or an ounce, of pure acid.”

Let the flowers and ſalt be well mixed together, then melted in an earthen diſh, under a chimney, and kept conſtantly ſtirring with a ſpatula, till the maſs has acquired a red colour; care being had that it do not take fire [c].

Lac

The above apparatus may be conſiderably improved by a ſlight alteration, and the yield of acid ſpirit at leaſt doubled.—Inſtead of cutting a circular hole at the bottom of the retort, let one be made in the ſide, of half the diameter of the former, at a little diſtance from the bottom: by this means, the lower part of the retort will ſupply the place of the concave glaſs plate, the glaſs mortar and the gallypot. Through the aperture in the ſide of the retort, pour an ounce or two of warm water; then introduce a ſhallow ſtone cup filled with flowers of ſulphur, which is to be placed in the middle of the water upon the bottom of the retort: ſet it on flame with a red hot wire; the heat of the burning ſulphur will ſoon communicate itſelf to the water, ſo as to keep it continually riſing in ſteam. Hence the acid ſpirit will be effectually blended with the aqueous moiſture, and conſequently detained, in conſiderable quantity, in a much leſs proportion of phlegm than when the common methods are purſued; for by conducting the proceſs after this manner, the buſineſs of rectification or dephlegmation is going on at the ſame time as the ſpirit is collecting.

We have inſerted the above proceſs, in conformity to the prejudices of ſome who believe, that this ſpirit, or oil of ſulphur by the bell, as it is called, eſſentially differs from the common oil of vitriol of the ſhops. We have long been perſuaded of the truth of the contrary opinion; and have not been able, by any experiment whatſoever, to diſtinguiſh a difference between the two, provided both liquors were of equal purity and ſtrength. But this diſpute will now perhaps be quickly at an end: for if we are rightly informed (and from our own experiments we are well aſſured of the poſſibility of the thing) almoſt all the oil of vitriol now ſold, is prepared from the fumes of burning ſulphur, catched by a more convenient apparatus than any commonly known.

[c] The ingredients in this preparation are differently proportioned to each other, in different books of pharmacy. *Boerhaave* * orders

* *Elem. Chem. proceſſ.* 152.

only

Lac ſulphuris.
Milk of ſulphur.

Take of Liver of Sulphur reduced to powder, as much as you pleaſe;
Spring-Water, four times its quantity.

Boil them together for three hours, adding more water, if there is occaſion[d]. Then filter the ſolution, while hot, and drop into it
of Spirit of Vitriol[e], as much as will be ſufficient, that

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only two parts of the ſalt to nine of the ſulphur; but even the larger proportion of three to eight, directed above, is too little; for it appears directly from experiment, that ſulphur requires ſomewhat more than double its weight of fixed alcaline ſalt (though the purer and ſtronger ſorts thereof be made choice of) to render it perfectly ſoluble in water, which this preparation ought to be, when made in perfection.

It is more convenient to add the ſalt of tartar by little and little to the ſulphur after it is melted, than to grind them together, and afterwards endeavour to melt them in an earthen pan: for in this caſe, the mixture will not flow ſufficiently thin to be properly united by ſtirring; and the ſulphur either takes fire, or ſublimes in flowers, which probably has been the reaſon why ſo large a quantity of it is commonly directed in this proceſs.

[d] The trading chemiſts prepare their *lac ſulphuris* by boiling powdered ſulphur in water, with three times its weight of quicklime: this gives the preparation a more ſaleable whiteneſs. Some are accuſtomed to add a portion of fixed alcaline ſalt to the quicklime, which increaſes its diſſolving power. The method of making it with liver of ſulphur, directed above, is the moſt expeditious and leaſt troubleſome, provided the liver of ſulphur be well made, as directed in the preceding note; otherwiſe, however vehement and long the coction be continued, great part of the ſulphur will remain undiſſolved, and be left upon the filter.

[e] The chemiſts employ the acid which is cheapeſt and next at hand for the precipitation of the ſulphur; and this commonly happens to be that above directed.

that is, till the efferveſcence ceaſes. A powder will be precipitated to the bottom, which is to be waſhed with water, and afterwards dried for uſe.

Balſamum ſulphuris craſſum.

Thick balſam of ſulphur.

Take of Linſeed-oil, or Olive-oil, one pint;
Flowers of Sulphur, four ounces.

Boil them together, over a gentle fire, keeping them continually ſtirring, till they come to the conſiſtence of a balſam [f].

Balſamum ſulphuris terebinthinatum.

Terebinthinated balſam of ſulphur.

Take of Flowers of Sulphur, two ounces;
Oil of Turpentine, ten ounces.

Digeſt them for ſome days [g] in a circulatory veſſel [h] placed

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It ſeems a little ſurpriſing that none of the pharmaceutical writers ſhould have taken notice of the difference which muſt neceſſarily ariſe to this preparation from the uſe of different acids. The vitriolic acid occaſions a larger yield of precipitate, than is obtainable if vinegar, ſpirit of ſalt, or ſpirit of nitre be employed: and this it does by uniting with the ſalt of tartar or lime, and forming a conſiderable quantity of ſalt not ſoluble in cold water; while the other acids form ſalts eaſily ſoluble therein, and which are conſequently ſeparated by the affuſions of water, with which this precipitate is always waſhed to fit it for uſe.

[f] This preparation may be conveniently made in a common earthen pipkin, which ſhould be capable of holding at leaſt three times the quantity of the ingredients. As ſoon as ever the oil begins to act upon the ſulphur, the mixture rarifies very much, ſo as certainly to run over the ſides of the veſſel and flame in a moſt dangerous manner, unleſs it is prudently removed from the fire.

[g] This proceſs may be compleated in four or five hours, by duly managing the fire, which ſhould be very gentle for ſome time, and at length increaſed ſo as to make the oil juſt bubble or boil; in which degree of heat it ſhould be kept, till all the ſulphur ſeems diſſolved, and appears to be taken up in the oil.

[h] This preparation is more conveniently and ſafely made in a very large

placed in a ſand-heat, untill the oil becomes ſaturated with the ſulphur. The veſſel being then ſuffered to grow cold, ſeparate the balſam from ſuch part of the ſulphur as remains undiſſolved.

Balſamum ſulphuris aniſatum.
Aniſated balſam of ſulphur.

Balſamum ſulphuris juniperatum.
Juniperated balſam of ſulphur.

Balſamum ſulphuris ſuccinatum.
Succinated balſam of ſulphur,
&c.

Theſe are prepared with the reſpective diſtilled oils, after the ſame manner as the balſam with oil of turpentine [i].

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large and tall uncut glaſs body (without at all cloſing its orifice) than in circulatory or cloſe veſſels, from the uſe of which great danger may enſue: for when the ſulphur and oil begin to act vehemently upon each other, they will not only rarefy into a large volume, but at this inſtant throw out great quantities of an elaſtic vapour with the utmoſt impetuoſity, certainly burſting the veſſels to pieces, if the orifices are not uncovered, and ſo large as to allow them a free exit. *Hoffman* gives a very remarkable hiſtory of the ſtupendous effects of an accident of this kind *.

[i] The balſams of ſulphur with eſſential oils may be more ſafely and conveniently prepared, by pouring ſixteen parts of the eſſential oil to ſix parts of the balſam of ſulphur with linſeed oil contained in a glaſs veſſel. Theſe may be eaſily incorporated, by ſetting the veſſel in warm ſand, and now and then ſhaking it.

Theſe preparations are far more elegant when made after this manner, than when prepared immediately from ſulphur and an eſſential oil: for thus they retain ſo much of the flavour of the oil as is in ſome meaſure ſufficient to cover the taſte of the ſulphur, and render it ſupportable. But whatever pains may be taken to render theſe kinds of medicines leſs offenſive to the patient, they will hardly

* *Obſervat. Phyſico-Chym.* Lib. iii. Obſ. 15.

Sal volatile, ſpiritus & oleum ſuccini.
Volatile ſalt, ſpirit and oil of amber.

Take of White Amber, in powder, one part;
Clean Sand, three parts.

Mix and put them into a glaſs retort, ſo that one half of it may be filled therewith. Then adapt a large receiver, and diſtill in a ſand-furnace, with a fire gradually increaſed. At firſt a ſpirit will come over, with ſome yellow oil; then a yellow oil, along with a little ſalt; and upon increaſing the heat, more ſalt with a reddiſh coloured oil [k].

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ever come into eſteem again. The reputation which they formerly had appears now to be built rather upon the warm opinion of ſome pſeudo-chemiſts, than fair trial and experience of their virtues. *Boerhaave* and *Hoffman* plainly reject them as unſafe medicines, eſpecially in ſome diſorders, for which they have been too often cried up as notable ſpecifics. Hence moſt of them are already become ſtrangers to the ſhops. See *Boerhaaves* obſervations upon theſe proceſſes, *Element. Chem.* proc. 156, 157, 158, 159.

[k] The diſtillation of amber may be performed without the uſe of ſand (or any other intermedium) which does little more than take up room in the retort. The chemiſts generally leave the receiver unluted; that it may be removed occaſionally, as the ſalt riſes and concretes in the neck of the retort, from whence it is every now and then to be ſcraped out, to prevent the oil from carrying it down along with itſelf into the receiver. When a groſs thick oil begins to ariſe, and no more ſalt comes over, the diſtillation ſhould be ſtopt by withdrawing the fire, otherwiſe a thick bituminous matter will aſcend, which either blocks up the neck of the retort, ſo as to occaſion its burſting; or, paſſing into the recipient, adheres ſo cloſely to it, as not to be removed, and conſequently unfits it for any future operation. Great care ſhould be taken, during the whole proceſs, to increaſe the fire by very ſlow degrees; and not to let the heat decay ſuddenly; which would infallibly occaſion the glaſſes to break.

When the diſtillation is finiſhed, empty the liquor out of the receiver; and having collected together the ſalt which adheres to the ſides, dry it by gentle preſſure between the folds of ſome ſpongy paper.

The oil may be ſeparated from the ſpirit by filtration; and afterwards rectified by diſtilling it from a brine of ſea ſalt [l].

Sal ſuccini rectificatum.
Rectified ſalt of amber.

Take of the Salt of Amber of the foregoing proceſs, as much as you pleaſe;
Sea-ſalt decrepitated, twice that quantity.

Grind them well together, and put the mixture into a tall and narrow glaſs cucurbit: fit on a blind-head, and proceed to ſublimation in a ſand-heat, taking care that the oil does not riſe. When the veſſels are grown cold, ſweep out the ſalt with a feather [m].

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[l] Oil of amber is uſually rectified without any addition, by diſtilling of it in ſmall retorts, with a very gentle fire, the heat being continued no longer than while the finer light coloured oil comes over; a ſmall quantity of volatile ſalt is often found in the neck of the diſtilling veſſel. The addition of brine ſtands recommended as of conſiderable uſe in this proceſs; particularly when the groſs dark coloured oil is to be rectified: by its means, a large proportion of fine coloured, tranſparent oil may be diſtilled, which is ſo light as to ſwim upon ſpirit of wine. The method which Mr. *Boyle* * recommends, is, to take two pounds of brandy or proof ſpirits, to one of ſea-ſalt, and half a pound of the oil; theſe ingredients are to be mixed together, and then diſtilled according to art.

[m] The common method of rectifying or purifying ſalt of amber from the oil which adheres to it, is to diſſolve the ſalt with a gentle heat, in a ſufficient quantity of pure water: and then to paſs the ſolution through a filter of paper which has been thoroughly wetted

* *Eſſay on the origin of fluidity and firmneſs, Sect.* ii.

with water. The clear ſolution being now evaporated in a ſhallow glaſs veſſel, with a gentle heat (until ſuch time as a little of it being taken out, forms ſaline ſpicula upon cooling) is to be removed from the fire, and ſet by, till the ſalt has cryſtallized. The remaining liquor may be further evaporated, and ſet to ſhoot, as the foregoing.

We cannot take upon us to determine, whether ſublimation or cryſtallization is abſolutely the beſt method of purifying ſalt of amber. The latter is certainly the eaſieſt and leaſt expenſive; while the former gives the ſalt a more elegant appearance, and renders it leſs liable to be adulterated.

SECTION III.

PREPARATIONS

OF

METALS.

Cauſticum lunare, ſeu lapis infernalis.

Lunar cauſtic, or infernal ſtone.

TAKE of fine cupelled Silver, as much as you pleaſe.

Diſſolve it in

Three times its quantity of Spirit of Nitre[a], contained in a phial placed in a ſand heat.

Evaporate

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[a] If the ſpirit of nitre be ſtrong, it will diſſolve more than one third its weight of fine ſilver: in caſe therefore this quantity of ſilver ſhould be entirely taken up by the menſtruum, it is convenient to add a few grains more thereof, till the ſpirit of nitre appears fully ſaturated, and a little of the metal remains undiſſolved at the bottom of the glaſs. By this method of procedure, a needleſs expence of ſpirit will be ſaved, and the evaporation finiſhed in a ſhorter time than when the proceſs is conducted according to the directions above.

Sometimes ſpirit of nitre contains a ſmall portion of the vitriolic or marine acid, which renders it unfit for diſſolving ſilver: this therefore ſhould be carefully ſeparated before the ſolution is attempted.

Evaporate the ſolution, till two thirds *of the moiſture* are exhaled [b]; then put the matter into a large crucible [c], and exhale the remaining moiſture, over a gentle fire: augment the heat by degrees, untill the maſs flows like oil, and ceaſes to fume [d]: then pour it out into a heated and greaſed iron pipe, made for this purpoſe: laſtly, let it be dried [e], and kept for uſe in a glaſs veſſel cloſe ſtopped.

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ed. The method which the refiners employ to examine the purity of their *aqua fortis*, and to purify it if neceſſary, is, to let fall into it a few drops of a perfect ſolution of ſilver: if the liquor remains clear, and grows not in the leaſt turbid or whitiſh, it is fit for their uſe; if otherwiſe, they add a ſmall quantity more of the ſolution, which immediately turns the whole of a milk-white colour: the mixture being then ſuffered to reſt for ſome time, depoſites a white ſediment, and becomes perfectly clear and colourleſs; when it is to be decanted from the precipitate, and examined afreſh; and, if need be, farther purified by a freſh addition of the former ſolution.

[b] In caſe the menſtruum proves as ſtrong as ſpirit of nitre is uſually expected, and fully ſaturated with ſilver, the evaporation ſhould not be continued ſo long as directed above, to prevent the matter growing ſo thick, as to be difficultly poured out of the glaſs.

[c] The crucible ſhould be big enough to hold at leaſt ſix times the quantity of the matter, to prevent any loſs of the ſilver, which might otherwiſe happen from its boiling over.

[d] Great care ought to be taken in this proceſs, to avoid ſuch a degree of heat, as will evaporate the acid parts of the menſtruum; and to continue it no longer than till the ſigns above appear, when the liquid matter ſhould be inſtantly poured into proper moulds.

[e] The drying here required is no other than to wipe the cauſtic from the greaſe which the mould is anointed with. Each piece ſhould be wrapt up in well-dryed ſoft paper, before they are put into the glaſs, not only to keep the air from immediately acting upon them, but to prevent their diſcolouring or corroding the fingers in handling them.

Calx jovis.
Calcined tin.

Take of Tin, any quantity at pleaſure.

Melt it in an unglazed earthen veſſel, and keep it conſtantly ſtirring with an iron ſpatula, till it is reduced to a calx [f].

Sal jovis.
Salt of tin.

Take of Calcined Tin, what quantity you pleaſe.
Aqua Regia, diluted with eight times its quantity of water, as much as will be ſufficient to cover the calx to the height of ſome inches.

Digeſt them together in a gentle heat of ſand, till the tin is diſſolved. Filter the ſolution through paper, and exhale it till a pellicle appears upon the ſurface. Afterwards ſet it by in a cold place for three or four days, that cryſtals may ſhoot: laſtly, pour off the liquor, and dry the ſalt for uſe.

The calx which is left undiſſolved may be digeſted with a freſh parcel of aqua regia as before, and the ſolution mixed with the liquor which remained after the cryſtalliſation: the whole being now duly evaporated, and ſet by in a cool place, a further yield of cryſtals will be obtained.

Amalgama jovis.
Amalgam of tin.

Take of Tin, any quantity at pleaſure.

Melt it in a crucible [g].

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[f] Tin emits, during its calcination, a conſiderable quantity of ſulphureous fumes; nevertheleſs, the calx is found to weigh about one ſixteenth more than the original metal.

[g] Iron ladles are more convenient than crucibles.

Put into another crucible

The ſame quantity of Quickſilver,

Keep the latter in the fire, till the quickſilver begins to fume, when it is to be immediately poured into the melted tin, and both kept continually ſtirring together, with an iron ſpatula, till the maſs grows cold.

Aurum moſaicum.

Moſaic gold.

Take of Amalgam of Tin, ſix ounces;

Sal Ammoniac,

Flowers of Sulphur, each three ounces.

Grind and mix them well together in a marble mortar: put the mixture into a cucurbit: place it in a ſand-furnace, and apply at firſt a gentle heat, which is to be raiſed by ſlow degrees to the utmoſt. When the proceſs is finiſhed, break the veſſel, and the moſaic gold will be found in the bottom, the ſcoriæ being ſublimed upon the top thereof[h].

Minium

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[h] The management of this proceſs, ſo as to give to the preparation the beautiful colour and appearance for which it is admired, and from which it receives its name, has been held as a ſecret. The chemiſts ſeem greatly divided as to the proportion which the ingredients ought to bear to each other; and in this ſome make the principal difficulty to conſiſt; while others place the whole upon the due regulation of the fire. Both theſe particulars are undoubtedly of conſequence: but as much depends upon the due and perfect mixture of the ingredients, as upon either of the former circumſtances. The proceſs has always ſucceeded with us, though we have mixed the ingredients in very different proportions, and uſed no other caution than to rub them well together, to give a gentle fire for ſome time, and to continue a ſtrong fire at laſt for a conſiderable while, according to the quantity of the mixture.

Few, if any, of the pharmaceutical writers ſeem to know what part of the above ſimples really enters this medicine, we ſhall therefore lay before the reader a ſhort hiſtory of the proceſs, with an examination not only of the moſaic gold itſelf, but likewiſe of the matters

Minium.
Red lead.

Take of Lead, what quantity you pleaſe.

Melt it in an unglazed earthen veſſel, and keep it continually ſtirring with an iron ſpatula, till it changes into a powder, which will be at firſt ſomewhat blackiſh, but in a little time after grow yellow, and at length become

of

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matters which ſublime to the upper part of the veſſel, and are generally neglected. This, we apprehend, will not only afford ſufficient directions how to manage this operation to advantage, but likewiſe let us into the nature of the medicine itſelf.

The ingredients being duly mixed together, in the quantities ſet down above, were put into a flat bottomed matraſs with a wide neck, and the glaſs placed upon a little ſand in an iron pot. A gentle fire was applied under it for ſome time: copious white fumes aroſe, and paſſed out at the neck of the glaſs, having a ſtrong ſulphureous ſmell. Upon theſe abating, the fire was gradually raiſed, till the ſand became red hot: after the fire had been kept up in this degree for near an hour, it was ſuffered to decay, and the glaſs taken out as ſoon as it was grown cool: Upon breaking it, a bright, ſparkling gold-coloured maſs was found at the bottom; immediately above it was ſpread, beneath a ſaline cruſt, a thin dark-coloured ſubſtance, which being ſcraped off and rubbed, appeared of a red colour like cinnabar, which upon other trials it proved to be. The ſaline cruſt was of a dark hue, and ſeemed to taſte more ſharp than ſal ammoniac; upon grinding a little fixed alcaline ſalt with it, it emitted an urinous ſmell: Above this, in the neck of the glaſs, was more of the ſame kind of ſubſtance, manifeſtly intermingled with ſulphur.

The *aurum* being examined, appeared of one uniform colour and texture throughout, and weighed near four drams more than the tin employed. Upon roaſting it in an iron ladle over the fire, and ſtirring it all the while, it ſmoaked a little, and ſoon exchanged its golden hue for a dirty coloured one, not unlike tin when lightly calcined. This being mixed with a proper flux, and fuſed, yielded a lump of tin, which did not fall ſo far ſhort of the original weight, as might have been reaſonably expected.

From

of a very red colour, when it is called minium, *or red lead* [i].

If this be urged with a vehement fire, it runs into a vitreous maſs.

From the foregoing account it appears, (1) That the quickſilver is united in this proceſs with the ſulphur into a true cinnabar; and that none of it is retained in the *aurum.*

(2) That the ſal ammoniac ſublimes from it entirely, and partly eſcapes at the orifice of the veſſel.

(3) That the ſulphur partly unites with the mercury, and partly eſcapes in fume, ſome ſmall portion of it being retained by the tin.

Hence the quickſilver is of no farther uſe in this proceſs, than as a medium to facilitate the mixture of the tin with the ſulphur and ſalt, during the triture. It appears likewiſe, that great part of the ſulphur is quite unneceſſary; and that the ſalt can only be of uſe, as it may help to carry off the ſuperfluous ſulphur from the tin, and give it a bright appearance.

From the whole, we conceive, that this elaborate medicine is no more than a *calx of tin,* and that it may be uſed with ſafety as ſuch, for medicinal purpoſes.

[i] The preparation of minium is ſo tedious and laborious, as ſcarce ever to be performed by the apothecary or chemiſt; nor indeed is it expected to be made by them. The intention therefore of ſetting down this proceſs here (which is omitted in many other diſpenſatories) ſeems to be, that this part of the pharmacopœia may not appear imperfect, by the omiſſion of any preparation in common uſe. The makers of this commodity melt large quantities of lead at once upon the bottom of a reverberatory furnace built for this purpoſe, and ſo contrived, that the flame acts upon a large ſurface of the metal, which is continually changed by the means of iron rakes drawn backwards and forwards, till the fluidity of the lead is deſtroyed; after which the calx is only now and then turned. It is ſaid, that twenty pounds of the metal gain in calcination into red lead, an increaſe of five pounds; and that this quantity of minium loſes upon being reduced into lead again, one pound of the original weight of the metal employed.

Ceruſſa.

Ceruſſe, or white lead.

Take any quantity of very thin plates of Lead.

Suſpend theſe in ſuch a manner in an earthen veſſel, at the bottom of which there is contained

A proper quantity of Vinegar,

that the vapour which ariſes from the vinegar may circulate about the plates. Set the veſſel in the gentle heat of horſe-dung for three weeks: if at the end of this time, the plates are not totally calcined, ſcrape off from them the white powder, and expoſe the plates again to the ſteam of vinegar, till all the lead is corroded, and become a white powder [l].

Saccharum ſaturni.

Sugar of lead.

Take of Ceruſſe, Minium, or Litharge, what quantity you pleaſe.

Put it into a cucurbit, and pour thereon

of Diſtilled Vinegar, as much as will ariſe above the metal the height of four inches.

Digeſt them together for ſome days in a ſand-heat, till the vinegar has acquired a ſweetiſh taſte, when it is to be ſuffered to ſettle, and then poured off. Add

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[k] The making of white lead is a trade of itſelf, and confined to a few perſons, who have large conveniencies for this purpoſe. The general method which they follow is nearly the ſame as above deſcribed; but if the reader deſires farther ſatisfaction on this head, he may conſult the account given in to the *Royal Society* by Sir *Philiberto Vernati* *. We muſt here caution the apothecary to be extremely careful in the choice of this commodity, which is frequently adulterated with whiting, an addition ſo foreign to the nature of ceruſs, as to render impracticable many of the proceſſes directed to be made therewith. This may be eaſily diſcovered, by the perceptible difference which there is between the gravity of the two, the adulterated being much lighter than ſuch as is genuine.

* *Phil. Tranſact.* N°. 137.

freſh vinegar to the remainder, and repeat this proceſs, till the menſtruum no longer extracts any ſweet taſte. Then let all the impregnated liquors reſt for ſome time, and after they have been poured from the feces, evaporate them in a glaſs veſſel to the conſiſtence of thin honey, ſo that upon being ſet in a cold place, the ſugar may ſhoot into cryſtals, which are afterwards to be dried in the ſhade.

Exhale the remaining liquor to a pellicle; ſet it in the cold; and more cryſtals will ſhoot: repeat this proceſs till no more ſugar can be obtained by its means[1].

Mars ſolubilis, ſeu chalybs tartarizatus.
Soluble, or tartarized ſteel.

Take of Filings of Iron, unprepared,
Cryſtals of Tartar, each equal parts;
Rain-Water, a ſufficient quantity to make the whole into a maſs, which is to be formed into balls; theſe are to be baked in an oven, then ground to powder, and again made into balls

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[1] Ceruſſe, eſpecially that ſort called in the ſhops *flake-lead* (as being leaſt ſubject to adulteration) is much preferable either to minium or litharge for making ſugar of lead; for the corroſion it has already undergone from the ſteam of vinegar, diſpoſes it to diſſolve more readily in diſtilled vinegar than any of the others. All the veſſels employed for making this preparation ſhould be of lead, as being not ſubject to the accidents of glaſs veſſels, and free from the inconvenience which attends earthen ones, of abſorbing a conſiderable quantity of the liquor, unleſs they are of a very compact and cloſe texture. The ceruſs ſhould be finely powdered before the vinegar is poured to it, and during the digeſtion, every now and then ſtirred up with a wooden ſpatula, in order to promote its diſſolution, and hinder it from concreting into a hard maſs at the bottom of the veſſel. If a ſmall quantity of ſpirit of wine be prudently added to the ſolution as ſoon as ever it is duly exhaled, and the mixture ſuffered to grow cool by very ſlow degrees, the ſugar will concrete into very large and tranſparent cryſtals, which are ſcarcely to be obtained by any other method.

With a freſh parcel of Water,

and baked in an oven as before. Repeat this operation till you have reduced the ingredients to ſuch a ſtate, as that they can be eaſily ground into an impalpable powder [m].

Mars ſulphuratus.
Steel prepared with ſulphur.

Take of Filings of Iron unprepared, as much as you pleaſe;
Sulphur in powder, twice that quantity;
Water, as much as will be ſufficient to make

them into a paſte, which ſuffer to ferment for ſix hours: then put it into a crucible, and let it deflagrate: Afterwards let the matter be kept continually ſtirring with an iron ſpatula, till it falls into a deep black powder [n].

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[m] After the mixture of iron and cryſtals of tartar has undergone two or three humectations and exſiccations, it will acquire a fine green colour, and being moderately triturated in an iron mortar, will almoſt all paſs through a very fine ſieve: if any remains, it ſhould be mixed afreſh with the finer powder, moiſtened again, and this repeated till the whole is reduced to an impalpable powder. This preparation is ſaid originally to have been invented by Dr. *Willis*, by whoſe name it is uſually diſtinguiſhed in the ſhops: it is indiſputably an elegant, though ſimple preparation of this metal. Some pharmaceutical writers uſe wine or ſpirit of wine, inſtead of the water here more judiciouſly ordered.

[n] Some pharmacopœias direct this preparation to be made by applying a roll of brimſtone to a bar of iron, heated in a ſtrong fire till it appears extremely white and throws out ſparkles: the iron will ſoon melt upon the application of the ſulphur, and run down in a ſtream, which may be catched by placing a veſſel of water under it; the iron corroded by the ſulphur will collect itſelf in round drops, and that part of the ſulphur, which is not imbibed by the metal, will be found in long ſtrings. This, though a very curious experiment, is a much more troubleſome and offenſive way of preparing iron with ſulphur for medicinal uſes, than that above directed.

This if farther urged in the fire, will aſſume a red colour, and is then called

Crocus martis aperiens.
Opening crocus of iron.

This preparation differs not from prepared ſteel gently calcined in a crucible, to redneſs.

Crocus martis aſtringens.
Aſtringent crocus of iron.

This is made from the Opening Crocus of Iron, by reverberating it for a long time in the moſt extreme degree of heat °.

Vitriolum martis, ſeu ſal chalybis.
Vitriol of iron, or ſalt of ſteel.

Take of Oil of Vitriol, four ounces;
Water, ten ounces.

Having gradually and cautiouſly put theſe liquors together, pour the mixture upon
Filings of Iron unprepared, three ounces.

Digeſt the whole in a cucurbit for twelve hours, that a ſolution may be made, which being filtered while hot, is to be evaporated to a pellicle, and then ſet in a cold place, till the vitriol has cryſtallized at the bottom of the veſſel. The liquor being then poured off from the cryſtals is to be again evaporated to a pellicle,

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° Whether the two foregoing preparations differ really ſo much from each other with regard to their effects on the human body, as to deſerve to be diſtinguiſhed by the two oppoſite appellations of *aperient* and *aſtringent*, is greatly to be doubted. The learned Dr. *Stahl* * delivers it as his opinion, that the common chalybeat preparations of the ſhops act only as aſtringents, and differ from one another in no other reſpect, than as they are more or leſs ſo.

* *Opuſc. Chymico-phyſico-med.* Menſ. Januar. 1698. cap. 4. p. 526.

and ſet to ſhoot as before. Collect all the cryſtals together, and dry them on a paper in the ſhade [p].

Flores martis.
Flowers of ſteel.

Take Filings of Iron unprepared,
Sal Ammoniac in powder, of each equal parts.

Mix theſe ingredients well together, and ſuffer them to ſtand ſome time in a moiſt place. Having then put the matter into an earthen cucurbit, with a glaſs head, proceed to ſublimation: firſt, a ſpirit of ſal ammoniac will ariſe, which is to be catched in a receiver; then white flowers, which may be thrown away as uſeleſs; and at length yellowiſh red flowers, which are to be ſwept out of the head with a feather, and kept for uſe [q].

A Tincture of Steel may be obtained from the caput mortuum, as alſo from the flowers.

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[p] Great care ſhould be taken to chuſe ſuch iron for this preparation, as is perfectly free from copper or any venereal taint, otherwiſe the ſalt may turn out, even in a ſmall doſe, violently emetic. We recommend for this purpoſe fine bright iron wire: but if this be thought too dear, the common vitriol of iron may be exquiſitely freed from copper, or any other foreign matters, by diſſolving it in water, and then ſuffering the ſolution to ſtand for ſome time in a warm place expoſed to the air; after which it is to be paſſed through a filter, and cryſtalliſed in the common manner.

[q] This proceſs may be conſiderably improved by thoroughly drying the mixture of iron-filings and ſal ammoniac, with a gentle heat, before it is put into the ſubliming veſſel. For thus the ſpirit, (which is in ſo ſmall a quantity, and ſo weak, as not to be worth ſaving) being diſſipated, the fire may be raiſed with ſuch a degree of celerity, as will elevate a ſufficient quantity of iron to give the flowers the colour and medical virtue intended; a circumſtance not to be obtained by a languid ſublimation. Some further methods of improving this proceſs, may be ſeen in *Pract. Chem.* p. 55.

SECTION IV.

PREPARATIONS

OF

METALLIC MINERALS.

Mercurii ſolutio.
Solution of quickſilver.

TAKE of Pure Quickſilver.
Double Aqua fortis, each equal quantities [a].

Digeſt them together in a phial placed in a ſand-heat, that a limpid ſolution may be made.

Mercurii calx.
Calx of mercury.

Take of the Solution of Quickſilver, what quantity you pleaſe.

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[a] The ſtrength of aqua fortis is ſo precarious, that it is hardly poſſible to determine, without an experiment, how much thereof is requiſite to diſſolve a certain quantity of quickſilver, ſo as to procure a perfectly ſaturated ſolution. It is therefore convenient, in caſe the mercury ſhould be entirely taken up by the quantity of acid above preſcribed, to add occaſionally a few drops of the former, till ſome remain undiſſolved by the menſtruum in a boiling heat.

Evaporate it, over a gentle fire, to a white, dry maſs.

Mercurius præcipitatus albus.
White precipitate of mercury.

Take of the Solution of Quickſilver, any quantity at pleaſure.

Pour upon it, by degrees, ſome very ſtrong Brine of Sea-ſalt, till all the quickſilver is precipitated into a very white powder [b], which is to be waſhed, upon a filter, with warm water, till the water comes off without any acrimony [c]. The powder is then to be placed between the folds of paper, and dried with a very gentle heat.

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[b] The white precipitate of mercury is uſually directed to be made after this manner; but this preſcription is rarely complied with. Some chemiſts ſubſtitute to it the next preparation (here called ſweet precipitate of mercury, to diſtinguiſh it from the foregoing.) The white precipitate, as the commentator on the *London* draught obſerves *, is not only a very corroſive, but likewiſe a very unfrugal preparation; for ſea ſalt, in whatever proportion it be added, will not entirely precipitate all the mercury from its ſolution: this may be made evidently to appear, by adding a ſmall quantity of a ſolution of fixed alcaline ſalt, or volatile alcaline ſpirit, to the liquor which remains after the precipitate is fallen, when the liquor will again grow turbid, and let fall a conſiderable quantity of freſh precipitate. Mr. *Homberg* obſerves †, that if the acid ſpirit bears an over-proportion to the mercury, no precipitation at all will follow upon the affuſion of the brine of ſea-ſalt.

[c] If this precipitate be waſhed too often with hot water, it will all entirely paſs the filter. The ſame accident will likewiſe happen, if the brine employed at firſt to throw down the mercury, be ſuffered to ſtand too long upon the precipitate.

* *Pharm. Reform. p.* 86.

† *Mem. de l'Acad. roy.* 1700.

Mercurius præcipitatus dulcis.

Sweet precipitate of mercury.

Take of corroſive Mercury ſublimate, what quantity you pleaſe.
Diſſolve it in
Hot Water, as much as is ſufficient.
Gradually drop into the ſolution
Some Spirit of Sal Ammoniac,

as long as any precipitation enſues. Waſh the white precipitated powder upon a filter, with ſeveral freſh parcels of warm water; *and afterwards dry it for uſe*[d].

Mercurius præcipitatus fuſcus, vulgo Wurtzii.

Brown precipitate of mercury, commonly called Wurtz's precipitate.

Take of the Solution of Mercury, any quantity.
Gradually drop into it
of Oil of Tartar per deliquium, as much as will be ſufficient,

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[d] The entire ſolution of corroſive ſublimate in water is much more difficultly effected than one would imagine. Hence ſome have been accuſtomed to mix a certain quantity of crude ſal ammoniac along with the ſublimate, which is by this means made eaſily and quickly to diſſolve even in cold water. And it is upon this foundation that the college of *London* have now directed the following method of making their white precipitate.

"Take of ſal ammoniac and corroſive ſublimate, each equal "weights. Diſſolve them together in water, filter through paper, "and precipitate with a ſolution of any fixed alcaline ſalt; then waſh "the precipitated powder till it is perfectly ſweet."

A ſolution of two ounces of ſal ammoniac and as much ſublimate in three pints of water, required three ounces and a half of a ſtrong lixivium of pure fixed alcaline ſalt. The precipitate, when waſhed and dryed, was extremely white, and weighed a very little leſs than the ſublimate employed.

that is, till the effervefcence, which ariſes upon each affuſion, ceaſes. A powder will be precipitated to the bottom, which is to be edulcorated as the foregoing [e].

Mercurius calcinatus, vulgo præcipitatus, ruber.

Red calcined mercury, commonly called red precipitate of mercury.

Take of the Calx of Mercury, as much as you pleaſe. Reverberate it in a crucible with ſucceſſive degrees of heat. The white colour of the calx will by this means be changed firſt into a brown, and afterwards a yellow; at length, upon increaſing the fire, it paſſes into a deep red powder [f].

Mercurius

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[e] This precipitate was more in uſe ſome years ago than at preſent, as a gentler emetic than the turbith mineral. It does not differ in ſtrength or effects from the preceding preparation.

[f] The preparation of red precipitate, as it is called, is by ſome ſuppoſed to be a ſecret not known to our chemiſts; and that hence we are under a neceſſity of importing it from other places. But this reflection ſeems to be entirely founded upon miſinformation; for we have often ſeen it prepared in *London*, in great perfection, whether we regard its colour, lively ſparkling appearance, or conſider it as a medicine uſed by the ſurgeons. It is true, we ſometimes receive great quantities from abroad; but this depends upon the price of the ingredients (which are commonly cheaper in *Holland* than here) not upon any ſecret in the preparation.

The aqua fortis employed by our chemiſts for this purpoſe, is that which comes over in the making of corroſive ſublimate, or in its room common aqua fortis drawn over from a little ſea-ſalt: the marine acid, which is in a ſmall quantity in both theſe ſpirits, is ſaid to diſpoſe the calx to take the bright ſparkling look admired in this preparation; but perhaps this and the colour depend as much at leaſt upon the management of the fire, as upon any thing particular in the menſtruum.

The

Mercurius præcipitatus viridis.
Green precipitate of mercury.

Diſſolve four ounces of Sublimate Corroſive Mercury (previouſly reduced to powder) in a quart of hot water.

Digeſt an ounce and a half of Copper-filings with eight ounces of Spirit of Sal Ammoniac, in a matraſs, till a deep blue tincture is extracted.

Filter the tincture, and drop it by degrees into the mercurial ſolution. When the precipitate has fallen, evaporate in a ſand-heat to dryneſs [g].

Mercurius præcipitatus flavus, ſeu turpethum minerale.

Yellow precipitate of mercury, or turpeth mineral.

Take of pure Quickſilver, four ounces;
Rectified Oil of Vitriol, ſixteen ounces.

Cautiouſly mix them together, and diſtill in a retort placed in a ſand-furnace, to dryneſs. The white calx which is left at the bottom being ground to powder, and thrown into water, immediately grows of a yellow colour: waſh this in freſh parcels of water renewed ſe-

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The college of phyſicians of *London* have lately received the following proceſs in their *pharmacopœia.*——"Take equal weights of purified quickſilver and of compound aqua fortis. Pour them into a veſſel which has a wide bottom; place it in a ſand-furnace, and apply a gradual fire, till the maſs has loſt all its humidity, and acquired a due degree of redneſs." The compound aqua fortis for this proceſs is made by drawing over ſixteen ounces of ſingle aqua fortis from one dram of ſea-ſalt.

[g] This is not ſo much in uſe as formerly, though there is ſtill ſome demand for it. The preparation was in the laſt edition a very rough medicine. It has been made after this form by our chemiſts for ſome time; and the college have very reaſonably adopted it, as it is a much milder and ſafer preparation than the old one.

veral times, till it has loſt all its acrimony; then dry it for uſe [h].

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[h] The proportion which the vitriolic acid bears to the mercury in this preſcription is too great: if the proceſs be well managed, and the oil of vitriol be perfectly ſtrong and good, ſomewhat leſs than two parts of this will effectually corrode one of the other. *Boerhaave* * directs this preparation to be made in an open glaſs ſlowly and gradually heated, and then placed immediately upon burning coals, with care to avoid the fumes, which are extremely noxious. This method will ſucceed very well, with a little addreſs, when the ingredients are in ſmall quantity: but when the mixture is large, it is better to uſe a retort placed in a ſand-furnace, with a recipient luted to it, containing a ſmall quantity of water. Great care ſhould be taken, when the oil of vitriol begins to bubble, to ſteadily keep up the heat without at all increaſing it, till the ebullition ceaſes, when the fire may be augmented to the utmoſt degree; for by how much the more perfectly the calx is exſiccated, by ſo much the greater will the yield of the turbith prove.

The edulcoration of this preparation, which is attempted by repeated ablutions with freſh water, does but ill ſucceed; eſpecially if the vitriolic acid has been uſed in too large a proportion, or the calx not been duly exſiccated; in which caſes, great part of the turbith will be taken up by the water, as will evidently appear upon pouring in a little ſolution of pure ſalt of tartar into the water employed for this purpoſe, which will occaſion it to depoſite a conſiderable quantity of yellowiſh precipitate, greatly reſembling the former, except that it is leſs violent in its operation. The beſt method therefore of edulcorating this calx, ſo as to render it a medicine of a certain degree of ſtrength, ſeems to be by impregnating the water intended to be uſed in its ablution with a determined quantity of fixed alcaline ſalt. By this means, we conceive the waſhed calx would not only be greater in quantity, but what is of more conſequence, always have one equal degree of ſtrength; a point which deſerves particularly to be conſidered, eſpecially in making ſuch preparations, as from an error in the proceſs may prove too violently corroſive to be uſed with any tolerable degree of ſafety.

* *Elem. Chem. proceſſ.* 199.

Mercurius ſublimatus corroſivus.
Corroſive mercury ſublimate.

Take Calx of Mercury,
Decrepitated Sea-ſalt, of each equal quantities.

Powder and mix theſe well together, and put them into a matraſs, of which they may fill nearly one half: place the veſſel in a ſand-furnace, and proceed to ſublimation, applying at firſt a gentle heat, and afterwards gradually increaſing it, till all the ſublimate has aroſe in a white cryſtalline maſs, to the upper part of the matraſs: ſeparate this from the red ſcoriæ, and purify it, if needful, by a ſecond ſublimation[i].

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[i] The compilers of this diſpenſatory, ſenſible of the great inconveniencies which attended the making of corroſive ſublimate after the common method, introduced this ſimple and elegant one in the year 1722. Mr. *Boulduc* communicated to the royal academy of ſciences at *Paris*, in 1730, another method equally as ſimple and practicable as this. We have not had competent experience to determine which of the two is the moſt advantageous: but as there is ſomething extremely curious in the management of the latter, we ſhall inſert the proceſs, with ſome directions of our own.

Upon any quantity of pure quickſilver, in a retort, pour an equal weight of good oil of vitriol: draw off the phlegm, and that part of the acid which does not unite with the mercury: continue the diſtillation till the white maſs at the bottom of the retort becomes perfectly dry: this being taken out, is ſpeedily to be rubbed, in a glaſs mortar, with an equal weight of well dried common ſalt: Afterwards the mixture is to be ſet to ſublime in a matraſs placed in a ſand-furnace, with a gradual fire; at firſt, a few drops of moiſture will appear in the neck of the glaſs; theſe are ſoon followed by ſaline ſpicula: at this time, the fire may be raiſed till all the ſublimate is elevated; when the matraſs is to be immediately removed from the furnace, that the cold air may break it; this is more convenient than to let it cool gradually, and afterwards break it with a blow, which might occaſion ſome part of the ſublimate to fall down upon the caput mortuum.

Mercurius ſublimatus dulcis.

Sweet mercury ſublimate, commonly called mercurius dulcis.

Take of Sublimate Corroſive Mercury (ground in a glaſs mortar) four ounces;
Pure Quickſilver, three ounces.

Mix them exquiſitely together in a mortar, till the quickſilver ceaſes to appear [k]. Put the powder into an

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Though both methods are admirably well contrived, they will not anſwer the purpoſes of trade, without a little farther management, to give the ſublimate the appearance of a placenta, or cake, which it has in the ſhops. This form may be obtained very eaſily, when large quantities of the ingredients are employed, by placing the matraſs no deeper in ſand than the ſurface of the matter contained in it, and removing a little thereof from the ſides of the glaſs as ſoon as flowers begin to appear in the neck, when the heat ſhould likewiſe be ſomewhat lowered, and not at all raiſed till the end of the proceſs. The ſublimation may be known to be compleated, by the edges of the cryſtalline cake, which will form upon the ſurface of the caput mortuum, appearing ſmooth and even, and a little removed from it.

[k] The trituration of corroſive ſublimate with quickſilver, is a very noxious operation; for it is almoſt impoſſible, by any care, to prevent the lighter particles of the former from ariſing, ſo as ſometimes violently to affect the operators eyes and mouth. This inconvenience has occaſioned this part of the proceſs to be either ſlightly performed or neglected, though it is undoubtedly of the utmoſt conſequence, unleſs ſupplied by digeſting the ingredients together, till they are perfectly united, before the heat be raiſed ſo as to ſublime them. It is indeed ſtill neceſſary to pulveriſe the ſublimate before the mercury is added to it; but this may be ſafely performed, with a little caution; eſpecially if during the pulveriſation the matter be now and then ſprinkled with a little ſpirit of wine: this addition does not at all impede the union of the two ingredients, or prejudice the ſublimation; it is convenient not to cloſe the top of the ſubliming glaſs with a cap of paper at firſt (as is uſually practiſed) but to defer this till the mixture begins to ſublime, that the ſpirit may eſcape.

oblong phial, of ſuch a ſize, that only one third may be filled: ſet the glaſs in a ſand-furnace, ſo as that the ſand may reach up to one half its height. By degrees of fire ſucceſſively applied, almoſt all the mercury will ſublime, and adhere to the upper part of the veſſel. The glaſs being then broken, and the red powder which is found in its bottom, with the whitiſh one which ſticks about the neck, being thrown away, let the white mercury be again ſublimed three or four times.

If this operation be repeated ſeven times, the preparation is called Calomel, or Aquila alba [l].

Panacæa mercurii.
Panacæa of mercury.

Take of Calomel levigated, as much as you pleaſe;
Spirit of Wine, four times as much.

Digeſt them together in a ſand-heat for twenty days, frequently ſhaking the veſſel: then pour off the ſpirit, and dry the powder for uſe [m].

Æthiops

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[l] The notion that repeated ſublimation, by the ſimple act of triture, wears away, or breaks, the points of the ſublimate, on which its corroſiveneſs depends, is erroneous: for if this was true, ſublimate corroſive itſelf would become mild barely by repeating the operation; which is manifeſtly contrary to all experience. The only method of dulcifying ſublimate is, to add ſo much mercury to it, as may entirely ſatiate the acid ſpirit of ſea-ſalt contained therein: triture and digeſtion are neceſſary operations to perform this effect, as they facilitate the combination of a ſufficient quantity of mercury with the acid; while ſublimation ſeems to be of no manner of uſe at all in the proceſs; ſince either the union of the two ingredients is perfectly compleated before it happens, or elſe remains ſo imperfect for want of a due degree of digeſtion, as to require a repetition of the whole proceſs.

[m] This preparation differs very little, if at all, from good *mercurius dulcis:* for as Mr. *Lemery* obſerves, the ſpirit of wine does not diſſolve any part of the calomel. Some chemiſts therefore have recommended a proof ſpirit, or common water, as more ſuitable for this

Æthiops mineralis.

Æthiops mineral.

Take Quickſilver,
Flowers of Sulphur, of each equal parts.

Grind them together in a glaſs mortar, with a glaſs peſtle, till the mercurial globules entirely diſappear [n].

Mercurius ſaccharatus.

Mercury prepared with ſugar.

Take of Pure Quickſilver,
Brown Sugar-candy, each half an ounce;
Diſtilled Oil of Juniper, ſixteen drops.

Grind them together, in a glaſs mortar, till the mercury entirely diſappears [o].

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this purpoſe than rectified ſpirit of wine: but the matter is not much mended by this alteration; at leaſt, there is no danger that either of theſe liquors ſhould deprive this medicine ſo far of its ſaline parts, as to render it not different from a white indolent earth; for the ſpirit of ſalt and mercury are ſo cloſely united to each other by the foregoing proceſs, as not to admit of any ſeparation by the means here propoſed.

[n] The union of the mercury with the ſulphur may be greatly facilitated by the aſſiſtance of a little warmth. Hence ſome are accuſtomed to make this preparation in a more expeditious manner, by melting the ſulphur in an iron ladle over a gentle fire, and then adding the quickſilver, and ſtirring them together till the mixture is completed. Many perſons condemn this practice, and particularly order the *æthiops* to be made without fire, which is fondly ſuppoſed to make a diſagreeable impreſſion upon this medicine. But ſurely the ſmall degree of heat here required cannot reaſonably be ſuppoſed to injure ſubſtances which have already undergone much greater fires, and which are more perfectly united by its means, than by the triture which is uſually beſtowed on them.

[o] The college have dropt the *Mercurius alcalizatus*, the labour of making which was a great temptation to a grievous abuſe. The addition of the chemical oil in the preparation here given is not only convenient to promote the extinction of the mercury,

Crocus metallorum.
Saffron of metals.

Take Antimony,
Nitre, of each equal quantities.

Grind them ſeparately to powder, then throughly mix and inject them into a red hot crucible [p]: when the detonation is over, ſeparate the reddiſh metallic matter from the whitiſh cruſt, and edulcorate it with water [q].

Antimonium diaphoreticum nitratum,
Nitrated diaphoretic antimony with nitre.

Take of Antimony, half a pound;
Nitre, a pound and a half.

Having reduced them ſeparately to powder, mix them together, and inject the mixture by a ſpoonful at a time, into a red hot crucible. When the detonation is over, let the white maſs be calcined in the fire for half an hour. The powder [r] is to be kept in a glaſs veſſel cloſely

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but neceſſary to prevent its ſeparation from the ſugar, and running into its original form, which it conſtantly did upon the ſugars being diſſolved in water.

[p] The nitre intended for this preparation ſhould be carefully dried before it is mixed with the antimony: this caution makes the ſubſequent fuſion equable and perfect, and prevents any danger which might otherwiſe ariſe to the operator from injecting a powder containing a portion of aqueous moiſture upon ſome of the mixture already made fluid by the heat.

[q] The edulcoration here ordered, though often neglected, is a neceſſary part of this proceſs. The maſs ſhould be firſt reduced to a fine powder, then boiled for ſome time in water, and afterwards waſhed with repeated affuſions of more water, till ſuch time as the liquor comes off inſipid. The uſe of this edulcoration is to render the medicine as much as poſſible of one certain ſtrength.

[r] The matter which remains after the calcination is performed, will not appear in the form of a powder, as might be expected from the appellation above, but in that of a ſpongy coherent maſs, which is to be reduced to a powder in a marble or glaſs mortar. The

cloſely ſtopt [s].

Antimonium diaphoreticum dulce.
Sweet diaphoretic antimony.

To the Nitrated Diaphoretic Antimony, reduced to powder, pour as much water as will riſe above it ſome inches. Digeſt them together for a night, and then pouring off the water add freſh: Repeat this ablution five or ſix times.

The ſeveral waſhings being all mixed together, then filtered, and evaporated over a gentle fire till a cuticle appears, yield in the cold

Nitrum ſtibiatum.
Antimoniated nitre.

The chemiſts take the matter out of the crucible with an iron ſpatula, as ſoon as ever it is calcined, and throw it by little and little, while hot, into a veſſel full of cold water, in which it falls to powder.

[s] Authors are much divided about the virtue of this preparation of antimony; many chemiſts, and ſome phyſicians of great authority, affirming, that it is good for nothing, as it has no ſenſible operation. But if the common obſervation of this calx proving emetic after being for ſome time expoſed to the air, be well founded, it ſhould follow, that the powers of the reguline part are not entirely deſtroyed; but that it has the virtues of other antimonial preparations which are given as alteratives, that is, in ſuch ſmall doſes as not to ſtimulate the *primæ viæ*. The mild preparations of antimony, the ſtronger ones in very ſmall doſes, and even crude antimony finely levigated, ſeem to operate by promoting inſenſible perſpiration, by which means they produce changes not to be expected from more violent ſudorifics. Their effects are very ſenſible in many cutaneous diſeaſes, which is not unknown to the farriers. Diaphoretic antimony therefore, as it is certainly among the mildeſt preparations of that mineral, may be uſeful for children, and ſuch delicate conſtitutions where the ſtomach and inteſtines are eaſily affected. I know no reaſon for retaining the preparation unwaſhed; for if any good is expected from the ſalt, the *nitrum ſtibiatum*, (or *ſal polychreſt*, from which it ſcarcely differs) may be more commodiouſly employed by itſelf.

Regulus antimonii.
Regulus of antimony.

Take Antimony,
Nitre,
Crude Tartar, of each equal parts.

Grind them ſeparately into a powder, then mix, and rub them all together. Inject the powder at ſeveral times into a red-hot crucible, taking care to break the cruſt, which forms on the top, with an iron rod: when the detonation is over, let a large fire be made, that the matter may flow like water: then pour it out into a warm greaſed cone, and gently ſtrike it on the ſides, that the regulus may be ſeparated, and fall to the bottom. When all is cold, let the regulus be freed from the ſcoriæ which lie a-top of it [t].

Regulus antimonii martialis.
Martial regulus of antimony.

Take Antimony,
Nitre,
Crude Tartar, of each one pound;
Small pieces of Iron, half a pound.

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[t] Regulus of antimony is ſo rarely, if ever, at preſent made uſe of in medicine, that we ſhould conceive this proceſs is inſerted here as preparatory to the golden ſulphur of antimony, for the making of which the ingredients ſeem better proportioned than for the former. It is convenient to mix the nitre and tartar together, and deflagrate them in an iron ladle or pan, before their mixture with the antimony; for by this means the otherwiſe unavoidable loſs of ſome part of the antimony, which always happens from the vehemence of the deflagration, will be prevented, a ſmaller crucible ſerve, and leſs time and labour complete the proceſs.

The yield of regulus of antimony, which the ingredients proportioned as above afford, is extremely ſmall; and if the fuſion be continued for any length of time, will ſcarce be perceptible. If this therefore be the thing principally deſired, the ingredients muſt be adjuſted to one another in a ſomewhat different proportion. See *Pract. Chem.* p. 104.

To the iron heated in a crucible to a white heat, add gradually the other ingredients firſt powdered and mixed together; and proceed in the ſame manner as in the foregoing proceſs.

If this regulus be melted a number of times with freſh Nitre and Tartar, it becomes

Regulus antimonii ſtellatus.
Stellated regulus of antimony[u].

Sulphur auratum antimonii.
Golden ſulphur of antimony.

Take of the Scoriæ of Regulus of Antimony, as much as you pleaſe.

Reduce them to powder while warm, and boil them for a conſiderable time in
thrice their quantity of Water.

Filtre the yellowiſh-red ſolution through paper, then drop into it
A ſufficient quantity of Spirit of Vitriol;

A powder will be precipitated, which is to be waſhed in water till perfectly edulcorated, and freed from its ill ſmell[w].

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[u] If the reader deſires full inſtructions for conducting this proceſs to advantage, he may conſult *Pract. Chem.* pag. 108, 109.

[w] This preparation of antimony is emetic when taken on an empty ſtomach, but in the preſent practice is never preſcribed for that purpoſe, being always given as an alterative deobſtruent, eſpecially in cutaneous diſeaſes, and as ſuch it is ordered by the college as an ingredient in the *pilulæ æthiopicæ*. Its emetic quality is eaſily blunted by making it up into pills with reſins or extracts, eſpecially if taken on a full ſtomach. With theſe cautions, I have been credibly informed, it has been increaſed to the rate of ſixteen grains a day, for a conſiderable time, without occaſioning any diſturbance upwards or downwards. The *kermes mineral*, or *Carthuſian powder*, which made ſuch a noiſe in *France* ſome years ago, is a milder preparation of this ſulphur, but nothing better, nor is *Angelus Sala*'s troubleſome preparation to be preferred to it. Though all go by the

Butyrum antimonii.
Butter of antimony.

Take Antimony,
Sublimate corroſive Mercury, of each equal parts.

Grind them firſt ſeparately, then thoroughly mix them together, taking the utmoſt care to avoid the vapours. Put the mixture into a coated glaſs retort (having a ſhort wide neck) ſo as to fill one half of it: the retort being placed in ſand, and a receiver adapted to it, give at firſt a gentle heat, that only a dewy vapour may ariſe from the matter; the fire being then increaſed, an oily liquor will aſcend, and congeal in the neck of the retort, appearing like ice, which is to be melted down by a live coal cautiouſly applied.

This oily matter is to be rectified in a glaſs retort, into a pellucid liquor [x].

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the name of ſulphur, they owe their efficacy to the reguline part [*], which is more or leſs cruſted over with a hepar ſulphuris, as *Geoffroy* obſerves in his analyſis of *Kermes mineral* [†]. The pure ſulphur of antimony differs nothing from common ſulphur [‡].

[x] The directions given with this dangerous proceſs are every way worthy of the great ſkill which the compilers of this diſpenſatory have continually ſhewn whenever neceſſary. But from ſome late experiments it appears, that the proportions of the two ingredients to each other may be better adjuſted. The college of *London*, in their admirable new *Pharmacopœia*, allot two parts of ſublimate to one of antimony (though this proportion of the former, according to Dr. *Stahl* [||], is ſtill too little) and have received the common method of letting the ſaline concrete, which adheres to the neck of the retort, run into a liquor by expoſing it to a moiſt air,

[*] *Pract. Chem.* p. 207.

[†] *Mem. de l'Acad. roy.* 1735.

[‡] *Hoffm. Obſ. Phyſico-Chym.* Lib. iii. Obſ. 2. *Pharmacop. Reform.* pag. 94.

[||] *Fundament. Pharm. Chym.* P. 2. Sect. ii. Art. iv. § 12.

Cinnabaris antimonii.
Cinnabar of antimony.

As ſoon as the red vapours in the foregoing proceſs begin to appear, change the receiver, without luting the junctures, and increaſe the fire till the retort becomes intenſely red hot: in an hour or two, the whole of the black powder will be ſublimed, and its colour changed into red. Then break the retort, and diligently ſeparate the cinnabar, which will be found in its neck, from the black ſcoriæ [y].

Mercurius

as leſs troubleſome than the rediſtillation ordered above: nor can any objection be well made to this alteration; for although the liquor obtained by deliquation is leſs corroſive than that by diſtillation, yet it is ſufficiently ſo for the purpoſes here intended.

[y] The celebrated *Frederic Hoffmann* * is of opinion, that this cinnabar of antimony, as it is called, which is not to be procured but with great expence and trouble, is not preferable to the common factitious cinnabar of the ſhops: We ſhall therefore inſert in this place the moſt convenient method which we are acquainted with of making the latter.

Take of the pureſt rough ſulphur, or in its room flowers of ſulphur, one pound. Melt either of theſe, over a gentle fire which does not flame, in an iron pot capable of holding ſix or eight times the quantity. As ſoon as all the ſulphur is become fluid, remove it from the fire, and pour to it three pounds and a half of quickſilver previouſly made nearly as hot as the melted ſulphur: ſtir theſe two together with a warm iron ſpatula, uſing a briſk and continued motion, till ſuch time as the quickſilver diſappears, and the mixture grows conſiſtent, which it does of a ſudden, although the heat ſhould be ſomewhat greater than is ſufficient to keep ſulphur fluid: when this phænomenon happens, the ſtirring is to be left off, and the veſſel immediately cloſe covered with a wooden cover fitted to it, ſo as to prevent the leaſt admiſſion of air, which might otherwiſe occaſion the ſulphur to take fire, and ſometimes explode with great vehemence. When the pot is grown ſomewhat leſs hot, it

* *Obſ. Phyſico-Chym.* Lib. iii. Obſ. 2.

Mercurius vitæ.
Mercury of life.

Take of Rectified Butter of Antimony as much as
you pleaſe.

Pour to it
of Spring Water a ſufficient quantity,

That an exceeding white powder may be precipitated, to be edulcorated by repeated affuſions of warm water, and dried with a ſlow fire [z].

Bezoar-

it may be uncovered, and the mixture ground while warm with an iron peſtle, into a powder; though this triture is not neceſſary, unleſs ſome of the quickſilver appears, when it ſhould be continued till the union is compleated. This preparation may be ſublimed either in a common bolthead placed in a ſand-furnace capable of giving a ſtrong fire, or more commodiouſly in a coated bolthead with an open fire; the heat in both caſes muſt be ſo ſtrong as to make the bottom of the glaſs red-hot, and continued until upon introducing a wire through the neck, none of the mixture is felt at the bottom.

The preparers of cinnabar in large quantities employ earthen veſſels, which in ſhape pretty much reſemble an egg: theſe are of different ſizes, according to the quantity of cinnabar intended to be made at one ſublimation, which ſometimes amounts to two hundred weight. The jar or ſubliming veſſel is uſually coated from the ſmaller end almoſt to the middle, to prevent its breaking from the vehemence or irregularity of the fire: the greater part, which is placed uppermoſt, not being received within the furnace, has no occaſion for this defence. The whole ſecret with regard to this proceſs, is (1.) the regulation of the fire, which ſhould be ſo ſtrong, as to keep the matter continually ſubliming to the uppermoſt part of the jar, without coming out at its mouth, which is to be covered with an iron plate. (2.) To put into the ſubliming veſſel only a few pounds of the mixture at a time, to prevent unneceſſarily taking up room, and employing a greater fire than is otherwiſe wanted.

[z] The water which is firſt poured to the butter of antimony, if not in too large a quantity, will, by ſtanding ſome time upon it, become

conſiderably

Bezoardicum minerale.
Bezoar mineral.

Take of Butter of Antimony newly rectified, what quantity you pleaſe.

Gradually drop into it

Spirit of Nitre,

till the effervescence ceaſes.

Draw off the liquor, in a glaſs veſſel placed in a ſand-heat, till a dry powder remains behind; to which add

A little freſh Spirit of Nitre,

and again exſiccate it.

Repeat this three times; then commit the powder, in a crucible, to a naked fire, till it has received almoſt a white heat, and detain it in this ſtate for half an hour [a].

Bezoar-

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conſiderably acid, while the white powder which precipitates, as *Le Mort* * obſerves, appears interſperſed with a vaſt number of very minute cryſtals. This preparation has not, as its name ſhould ſeem to imply, any thing of mercury in it; but is ſolely compoſed of the reguline parts of antimony corroded by the acid ſpirit of ſea-ſalt, which are ſo cloſely joined together, as not to be entirely ſeparated by repeated affuſions of water. Hence the abovementioned author † directs ſome ſalt of tartar to be diſſolved in the water with which this powder is waſhed, to deſtroy the corroſive quality thereof. Several other methods have been propoſed for correcting and abating the force of this violent emetic: but as we have much ſafer medicines capable of fully anſwering every intention which this can be ſuppoſed to do, the common practice has deſervedly rejected its uſe.

[a] This preparation may be eaſier made by dropping butter of antimony into three or four times its weight of ſpirit of nitre, and then diſtilling the mixture in a retort till a dry white calx is left at the bottom, which is afterwards to be calcined as above directed.

* *Chym. Medico-Phyſ.* cap. xix. p. 221.

† *Ubi ſupra.*

Bezoar

Bezoardicum joviale.
Jovial bezoar.

Take of Regulus of Antimony, three ounces.
Melt it in a crucible, and add thereto
of the pureſt Tin, two ounces,
ſo as to make a new regulus; to which, after being levigated, add
of Sublimate Corroſive Mercury, five ounces.

Diſtill the mixture in a retort. Let the butter ariſing from this operation be fixed by three repeated diſtillations, with
thrice its own quantity of Spirit of Nitre.

The powder is then to be calcined, thrown, while ignited, into a proper quantity of
Spirit of Wine,
and afterwards dried for uſe [b].

Bezoar mineral has been formerly held in great eſteem, but its reputation is at preſent almoſt loſt. At bottom it ſeems not to differ from ſome other preparations which are made at an eaſier rate, and which are ſaid to be frequently vended for it.

[b] The regulus of antimony is with ſingular judgment directed to be melted previouſly to the addition of the tin; for thus the diſſipation of the latter, which would neceſſarily happen if they were both put into the crucible together, from the great heat requiſite for the fuſion of the former, is prevented. As ſoon as the tin melts, ſtir the mixture with a hot iron rod, and immediately pour it into a warm cone ready ſmoaked or greaſed. The proportion which theſe ingredients bear to each other in the matter which ariſes and concretes in the retort, is ſcarce to be determined without an experiment; we ſhould conceive that the tin is the largeſt of the two. The uſe of the ſpirit of nitre is to diſlodge the acid of ſea ſalt from the matter, which likewiſe is in its turn ſeparated by the ſubſequent diſtillation and calcination above directed: ſo that at the bottom, the medicine is probably no other than a calx compoſed of the regulus and tin, not greatly differing from the ſubſequent preparation; whether its medicinal virtues are ſo great as to deſerve the trouble of this proceſs, we will not pretend to determine: it is at preſent in ſo little eſteem, as to become almoſt a ſtranger to the ſhops.

Antihecticum Poterii.
Poterius's antihectic.

Take of Martial Regulus of Antimony, ſix ounces.
The beſt Tin, three ounces.

Melt theſe together in a crucible; then pour them out into a warm greaſed mortar; when the maſs is grown cold, grind it into a powder, to which add
thrice its weight of the pureſt Nitre.

Deflagrate the mixture in a crucible by a ſpoonful at a time; then calcine it for the ſpace of an hour; and having afterwards ground it into an impalpable powder, pour thereon
A ſufficient quantity of Warm Water.

Stir them well together with a peſtle, till the water grows milky; which being thus loaded with the finer parts of the powder, is to be poured off, and freſh Water put on the remainder: repeat this operation ſo often, till nothing but inſoluble fæces remain behind. Then ſuffer all the milky liquors to reſt, when a powder will fall to the bottom, which is to be waſhed with repeated affuſions of warm water, and then dried for uſe [c].

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[c] The regulus of antimony ſhould be melted before the tin is put to it, for the reaſon given in the preceding note: the remaining part of the proceſs is ſet down with ſo great fullneſs and accuracy, that the operator cannot poſſibly make any miſtake in it.

The chemiſts have been greatly divided in their ſentiments with regard to the proportion which the tin ought to bear to the regulus of antimony: Some vary ſo much from the above preſcription, as to order two parts of the former to one of the latter: others proceed ſo far as to direct ſix parts of tin to one of the regulus. Nor have they agreed upon the colour which this medicine ought to have, ſome preferring that which is perfectly white; while others look upon a bluiſh tinge as a mark of the proportions being duly obſerved, and the proceſs regularly performed. Nor do practical phyſicians differ leſs with regard to the account which they give of the medical virtues of this celebrated preparation: ſome extol it

Vitrum antimonii.
Glaſs of antimony.

Take of Antimony reduced to powder, one pound.

Calcine it over a gentle fire, in an unglazed earthen veſſel, keeping it continually ſtirring with an iron ſpatula, till the fumes ceaſe, and the antimony is reduced into a grey powder. Melt this powder in a crucible with an intenſe fire, and pour out the liquefied matter upon a heated copper-plate [d].

Vitrum

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as an excellent diaphoretic *, &c. others are ready to vouch that it has done moſt eminent ſervice in hectical caſes, while many of no ſmall note are confident that it has none of the virtues attributed to it, and utterly condemn it as unſafe, and capable of producing the very diſorders ſaid to be remedied by its uſe †. Thus much we may venture to aſſure the reader, that this preparation will vary conſiderably in the appearance of its colour, &c. as certain circumſtances not uſually attended to by every operator, happen. It ſhould therefore ſeem prudent, to drop, as the preſent practice has almoſt already done, ſo precarious a medicine, whoſe virtues are at beſt ſuſpected.

[d] The calcination of antimony, to fit it for making a tranſparent glaſs ſucceeds very ſlowly, unleſs the operator be very wary and circumſpect in the management of it; and is not a little offenſive, unleſs the fire and calcining veſſel be well diſpoſed. We ſhall therefore ſubjoin a few rules for conducting the proceſs with ſucceſs.

The moſt convenient veſſel is a broad ſhallow diſh, or a flat ſmooth tile: either of theſe is to be placed over a gentle fire, which can be occaſionally raiſed, ſo as to make the veſſel red hot; and the whole apparatus is to be ſo diſpoſed, as that the fumes which ariſe during the calcination may readily paſs up a chimney. The antimony deſigned for this purpoſe ſhould be the purer ſort, ſuch as is uſually found at the apex of the cones. This being groſsly powdered, is to be evenly ſpread over the bottom of the pan, ſo as not to lie above a quarter of an inch thick upon any part. The degree of fire employed at firſt, ſhould be only ſuch as will raiſe a fume from the antimony, which

* *Hoffm. Med. rat.* T. iv. P. I. p. 674. *Hoffm. ad Poter.* p. 297.

† *Stahl ars ſanandi cum expectatione,* c. 6. *Juncker Conſpect. Med. Schulz. Prælect. de virib. medicament.* &c.

is

Vitrum antimonii ceratum.
Glaſs of antimony prepared with wax.

Upon a dram of Yellow Wax melted in an iron veſſel, inject an ounce of Glaſs of Antimony previouſly reduced to powder. Detain the matter over a gentle fire for half an hour, keeping it continually ſtirring; then pour it out upon a paper, and when cold grind it into powder[e].

Tartarus

is every now and then to be ſtirred with a ſmooth iron ſpatula. When the fumes begin to decay, the fire is to be increaſed, care being taken not to make it ſo great as to melt the antimony, or run the powder into lumps: After ſome time, the veſſel may be made red hot: in which ſtate it is to be kept, till the matter will not, upon being ſtirred, any longer fume. If this part of the proceſs be rightly conducted, the antimony will appear in an uniform powder, without any lumps, and of a grey colour.

With this powder fill two thirds of a crucible; cover it with a tile, and place it in a wind-furnace; gradually increaſe the fire till the calx is in perfect fuſion, when it is to be now and then examined, by dipping a clean iron wire into it: if the matter which adheres to the end of the wire upon removing it, appears ſmooth and equally tranſparent, the vitrification is compleated, and the glaſs may be immediately poured out upon a hot ſmooth ſtone or copper-plate, and ſuffered to cool by ſlow degrees, to prevent its cracking and flying to pieces.

The glaſs of antimony uſually to be met with in the ſhops, is ſaid to be prepared with certain additions, which may perhaps render it not ſo fit for the purpoſes here deſigned, and which has occaſioned our being the more exact in delivering the proceſs.

[e] This uncommon preparation of the glaſs of antimony has for ſome time been held as a ſpecific in dyſenteries. Several extraordinary caſes, in which this medicine had a ſurpriſing good effect, are publiſhed in the *Medical Eſſays* of a ſociety at *Edinburgh*[*], with the original receipt, as communicated by Dr. *Young*, together with ſome obſervations, a ſhort extract of which we ſhall here preſent the reader.

The Dr. obſerves, that the quantity ſet down above, loſt one dram of its weight in the preparation; and that the glaſs melts in the wax

[*] *Abridg. vol.* 1. *p.* 193.

with

Tartarus emeticus.

Emetic tartar.

Take of Creme of Tartar, four ounces,
Glaſs of Antimony, in powder, two ounces.
Boil them together in
two quarts of Water,
for ten hours, ſtirring them frequently with a ſpatula, and adding more water as there ſhall be occaſion. Filter the ſolution while warm, and evaporate it to dryneſs; or only till a pellicle appears, that it may ſhoot into cryſtals[f].

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with a very ſlow heat. After it has been about twenty minutes on the fire, it begins to change its colour, and in ten more comes near to that of ſnuff, which is a mark of its being ſufficiently prepared. The doſe of this medicine is from two or three grains to twenty, according to the age or ſtrength of the patient. In its operation, it makes ſome patients ſick and vomit; it purges almoſt every perſon; but has been known to effect a cure, without occaſioning any ſenſible evacuation or ſickneſs.

Mr. *Geoffroy* † gives two pretty ſingular preparations of glaſs of antimony, which ſeem to have ſome affinity with the above: the firſt is made by burning ſpirit of wine upon it three or four times, the glaſs being every time exquiſitely rubbed upon a marble: the doſe of this medicine is from ten grains to twenty or thirty: it operates mildly both upwards and downwards, and ſometimes proves ſudorific.

The other preparation is made by digeſting glaſs of antimony moſt ſubtilely levigated, in a ſolution of half an ounce of maſtich made in ſpirit of wine, for three or four days, now and then ſhaking the mixture, and at laſt evaporating the ſpirit, ſo as to leave the maſtich and glaſs exactly mixed. Glaſs of antimony thus prepared is not emetic, but acts merely as a cathartic: the doſe is ſix grains in powder.—This laſt proceſs is imperfectly ſet down, as the quantity of the glaſs is omitted.

[f] This way of making emetic tartar with the glaſs of antimony has been practiſed by our chemiſts for ſome time, chiefly on account of the colour, which is whiter than when made with the *crocus metallorum*.

† *Mat. Med. tom.* 1. *p.* 223.

APPENDIX.

THE

DISPENSATORY

For the Use of the Poor,

In the

Royal Hospital at *Edinburgh.*

To the Reader.

IN preparing and compounding the following medicines, the rules laid down in the *Edinburgh Pharmacopœia* are to be obſerved, unleſs where the formula is entirely new, or ſome particular exception is made.

The officinal preparations are contained in the notes of the preceding book. The extemporaneous follow, under general heads.

Aquæ per infuſionem.

Waters by infuſion.

Aqua benedicta compoſita.

Compound lime-water.

THIS water is made in the ſame manner as directed in page 123, only omitting the ſyrup.

Aqua picea.

Tar-water.

Take of Tar, two pounds;
Spring-water, one gallon.

Stir them briſkly together with a wooden ſpatula or ſtick; let the mixture ſtand to ſettle for two days; and then pour off the clear liquor for uſe.

Boli.

Boluſſes.

Bolus alexetereus.

Alexetereal bolus.

Take of Virginian Snake-root, fifteen grains;
Caſtor, ten grains;
Camphor, three grains;
Syrup of Sugar, as much as is ſufficient.

Mix the whole together, ſo as to make them into a bolus.

Bolus e caſtoreo.

Bolus of caſtor.

Take of Caſtor, one ſcruple;
Volatile Salt of Hartſhorn, five grains,
or Diſtilled Oil of Hartſhorn, five drops;

Syrup of Sugar, a ſufficient quantity.
Mix and make them into a bolus.

Bolus diaphoreticus.
Diaphoretic bolus.

Take of the Compound Powder of Contrayerva,
Crude Sal Ammoniac, each one ſcruple;
Syrup of Sugar, as much as is ſufficient.
Mix them into a bolus.

Bolus diureticus.
Diuretic bolus.

Take of White Soap, two ſcruples;
Diſtilled oil of Juniper, from ten to twenty drops.
Mix them together.

Bolus guaiacinus.
Bolus of guaiacum.

Take of Extract of Guaiacum, two ſcruples;
Volatile Salt of Hartſhorn, ſeven grains;
Syrup of Sugar, as much as is ſufficient.
Mix and make them into a bolus.

Bolus jalappæ cum mercurio.
Bolus of jalap with mercury.

Take of Choice Jalap, one ſcruple;
Calomel, from five to ten grains;
Syrup of Sugar, a ſufficient quantity.
Mix them together into a bolus.

Bolus mercurialis.
Mercurial bolus.

Take of Calomel, from five to fifteen grains;
Conſerve of Roſes, half a dram.
Make them into a bolus.

Bolus pectoralis.
Pectoral bolus.

Take of Sperma Ceti, fifteen grains;

Gum Ammoniacum, ten grains;
Volatile Salt of Hartſhorn, ſeven grains;
Syrup of Sugar, a ſufficient quantity.
Mix, and make them into a bolus.

Bolus rhei cum mercurio.
Bolus of rhubarb with mercury.

Take of Choice Rhubarb, twenty-five grains;
Calomel, five grains;
Syrup of Sugar, as much as will be ſufficient to bring them into the conſiſtence of a bolus.

Bolus theriacalis.
Treacle-bolus.

Take of Theriaca, two ſcruples;
Volatile Salt of Hartſhorn, ſeven grains;
Camphor, three grains.
Mix, and make thereof a bolus.

Cataplaſmata.
Cataplaſms.

Cataplaſma emolliens.
Emollient cataplaſm.

Take of the Crumb of Bread, eight ounces;
White Soap, one ounce;
Freſh Cows-Milk, a ſufficient quantity.
Boil them a little.

Cataplaſma ſuppurans.
Suppurating cataplaſm.

This is made by adding to the foregoing cataplaſm,
of Onions bruiſed, one ounce and a half.
Baſilicon Ointment, one ounce.

Cataplaſma theriacale.
Treacle-cataplaſm.

Take of Theriaca, one ounce;
Expreſſed Oil of Mace, two drams.
Mix them together.

This cataplaſm is to be moiſtened, immediately before its application, with a little of the Saline Aromatic Spirit.

Cataplaſma theriacale camphoratum.
Camphorated treacle-cataplaſm.

Take of Theriaca, one ounce;
Camphor, one dram.
Mix them together.

Cerviſiæ medicatæ.
Medicated ales.

Cerviſia aperiens.
Aperient ale.

Take of whole Muſtard-ſeed, ten ounces;
Long Birthwort-roots, ſix ounces;
Tops of leſſer Centaury, two ounces;
Savin, one ounce;
New ſmall Ale, ten gallons.

Cerviſia cephalica.
Cephalic ale.

Take of Wild Valerian-root, ten ounces;
Whole Muſtard-ſeed, ſix ounces;
Virginian Snake-root, two ounces;
Roſemary, or Sage, three ounces;
New ſmall Ale, ten gallons.

Cerviſia diuretica.
Diuretic ale.

Take of Whole Muſtard-ſeed,
Juniper-berries, each eight ounces;
Seeds of wild Carrot, three ounces;

Common Wormwood, two ounces;
New ſmall Ale, ten gallons.

Cerviſia ad ſcorbuticos.
Antiſcorbutic ale.

Take of freſh Horſe-radiſh roots, twelve ounces;
Roots of ſharp-pointed Dock, ſix ounces;
Canella alba, two ounces;
Water Trefoil, freſh gathered, eight ounces;
or of the ſame plant dried, three ounces;
Common Wormwood, one ounce;
New ſmall Ale, ten gallons.

Collyria.
Collyriums.

Collyrium album.
White collyrium.

Take of Roſe-water, ſix ounces;
White Troches, one dram;
White Vitriol, ten grains.
Mix them together, according to art.

Collyrium aluminoſum.
Alum-collyrium.

Take of Roch Alum, half a dram;
The white of one Egg.
Shake them well together.

Decocta.
Decoctions.

Decoctum album.
White decoction.

Take of the Compound teſtaceous powder, ſix drams;

Gum Arabic, three drams;
Water, three pints.

Boil till one pint of the water is waſted; then add to the turbid decoction
of Aromatic Water, one ounce.
White Sugar, two drams.

Mix the whole together.

Decoctum antihecticum.
Antihectic decoction.

Take of the Roots of Comfrey,
Eryngo, each half an ounce;
Conſerve of Roſes, two ounces;
Water, three pints.

Boil theſe ingredients together, till there remains a quart of liquor after ſtraining; to which add
of ſweet Spirit of Vitriol, forty drops.

Decoctum aſtringens.
Aſtringent decoction.

Take of Tormentil-roots, one ounce;
Pomegranate-peel,
Plantane-leaves, each half an ounce;
Water, three parts.

Boil them to the conſumption of one pint of the water, adding towards the end
of Cinnamon, one dram.

Strain out the decoction, and mix with it
of Syrup of dry Roſes, one ounce.

Decoctum bardanæ.
Decoction of burdock.

Take of the roots of greater Burdock, two ounces;
Water, three pints.

Boil till there remains a quart of liquor after ſtraining, to which add
of Vitriolated Tartar, one dram;
White Sugar, half an ounce.

Decoctum campechenſe.
Decoction of logwood.

Take of Chips of Logwood, three ounces;
Water, two quarts.

Boil them to the conſumption of one half of the liquor, adding towards the end of the boiling,
of Cinnamon, two drams.

Strain out the decoction for uſe.

Decoctum commune.
Common decoction.

Take of Mallow-leaves,
Camomile-flowers, each one ounce;
Water, three quarts.

Boil till one quart of the liquor is waſted: then ſtrain out the remaining decoction for uſe.

Decoctum diureticum.
The diuretic decoction.

Take of the Roots of Parſley, or thoſe of Fennel, one ounce;
Seeds of wild Carrot, three drams;
Pellitory of the Wall, half an ounce;
Raiſins of the Sun, two ounces;
Water, three pints.

Boil them together, till there remains a quart of liquor after ſtraining; to which add
of Nitre, one dram.

Decoctum hordei.
The barley-decoction.

Take of Pearl Barley, two ounces;
Water, three quarts.

Boil them till one quart of the liquor is waſted; then ſtrain out the decoction for uſe.

Decoctum ſerpentariæ compoſitum.
Compound decoction of ſnake-root.

This decoction is made in the ſame manner as deſcribed in page 151, only exchanging the ſyrup of meconium for one ounce of white ſugar.

Decoctum tamarindorum cum ſena.
Decoction of tamarinds with ſena.

This decoction is made in the ſame manner as that in page 151, only exchanging the ſyrup of Violets for ſyrup of Pale Roſes.

Decoctum vulnerarium.
Vulnerary decoction.

Take of the herb Ground-ivy,
Leaves of Plantane, each half an ounce;
Water, three pints.
Boil them till there remains a quart of liquor after ſtraining, to which add
of white Sugar, half an ounce.

Electuaria.
Electuaries.

Electuarium antidyſentericum.
Antidyſenteric electuary.

Take of the Strengthening Confection, one ounce;
Balſam of Locatelli (diſſolved in the yolk of an egg) half an ounce.
Mix them together.

Electuarium antidyſentericum cum rheo.
Antidyſenteric electuary with rhubarb.

Add to the foregoing electuary
of choice Rhubarb in powder, one dram and a half;
Syrup of Marſhmallows, as much as will be ſufficient to give the whole the conſiſtence of an electuary.

Electuarium balſamicum.
Balſamic electuary.

Take of Conſerve of Roſes, two ounces;

Balſam

Balſam of Locatelli (diſſolved in the yolk of
an egg) one ounce.
Mix, and make them into an electuary.

Electuarium cephalicum.
Cephalic electuary.

Take of Wild Valerian-root.
Miſletoe of the oak, each one ounce;
Syrup of Sugar, a ſufficient quantity.
Make them into an electuary.

Electuarium hæmorrhoidale.
Electuary againſt the piles.

Take of Lenitive Electuary, two ounces;
Flowers of Sulphur, half an ounce.
Make thereof an electuary.

Electuarium ad nephriticos.
Nephritic electuary.

Take of Lenitive Electuary, one ounce and a half;
Venice Turpentine (diſſolved in the yolk of
an egg) one ounce;
Oyſter-ſhells prepared, half an ounce;
Choice Rhubarb, one dram;
Syrup of Marſhmallows, a ſufficient quantity.
Mix all theſe ingredients together, and make them into an electuary, according to art.

Electuarium Peruvianum febrifugum.
Febrifuge electuary of the bark.

Take of Peruvian bark, one ounce;
Crude Sal Ammoniac, one dram;
Syrup of Lemon-juice, as much as will make the other ingredients into the conſiſtence of an electuary.

Electuarium Peruvianum roborans.
Strengthening electuary of the bark.

Take of Peruvian bark, one ounce and a half;

Colcothar of Vitriol, three drams;
Syrup of Sugar, a ſufficient quantity.
Make them into an electuary.

Electuarium ſiſtens.
Electuary againſt fluxes.

Take of the Strengthening Confection, two ounces;
Extract of Logwood, one ounce;
Syrup of dry Roſes, a ſufficient quantity.
Make them into an electuary.

Emplaſtra.
Plaſters.

Emplaſtrum calidum.
Warm plaſter.

Take of Gum-plaſter, one ounce;
Bliſtering-plaſter, two drams.
Melt them together over a gentle fire.

Emplaſtrum ſuppurans.
Suppurating plaſter.

Take of Gum-plaſter, one ounce and a half;
Burgundy Pitch, half an ounce.
Melt them together.

Emulſiones.
Emulſions.

Emulſio communis.
The common emulſion.

Take of Sweet Almonds, one ounce;
Water, one quart.
Make them into an emulſion, to which add

of white Sugar, two drams.

If three drams of Gum Arabic be previouſly boiled in the water, the preparation is called

Emulſio arabica.

Arabic emulſion.

Enemata.

Glyſters.

Enema de amylo.

The ſtarch glyſter.

Take of Gelly of Starch, four ounces.

Liquefy it over a gentle fire, and mix in
of Linſeed-oil, half an ounce.

This glyſter is prepared likewiſe with the addition of forty drops of Liquid Laudanum.

Enema anodynum.

Anodyne glyſter.

Take of the Infuſion of Linſeed, ſix ounces;
Liquid Laudanum, forty drops.

Mix them together.

Enema anticolicum.

Anticolic glyſter.

Take of the Common Decoction, half a pint;
Tinctura Sacra, one ounce;
Common Salt, one dram;
Linſeed-oil, two ounces.

Mix the whole together.

Enema aſtringens.

Aſtringent glyſter.

Take of Lime-water, ten ounces;
Strengthening Confection, half an ounce.

Mix them together.

Enema aſtringens balſamicum.
Balſamic aſtringent glyſter.

This is made by adding to the foregoing
of Locatelli's Balſam (diſſolved in the yolk of
an egg) half an ounce.

The quantity of each of theſe glyſters here preſcribed, ſerves generally for two injections.

Enema domeſticum.
The domeſtic glyſter.

Take of Cows Milk, half a pint;
Brown Sugar,
Oil Olive, each one ounce.
Mix them together.

Enema emolliens.
Emollient glyſter.

Take of Palm-oil, one ounce and a half;
The Yolk of one egg.
Work them well together, and add
of Cows Milk, half a pint.

Enema fœtidum.
The fetid glyſter.

Take of Rue,
Savin, each half an ounce;
Water, a pint and a half.
Boil them till a pint of liquor remains after ſtraining; to which add
of Aſa Fetida, two drams;
Oil-Olive, one ounce;
Diſtilled Oil of Amber, half a dram.
Mix them together according to art. This quantity ſerves for two injections.

Enema purgans.
The purging glyſter.

Take of the Common Decoction, half a pint;

White Soap, one ounce;
Syrup of Buckthorn, an ounce and a half.
Mix them according to art.

Enema terebinthinatum.
Turpentine-glyſter.

Take of the Common Decoction, ten ounces;
Venice Turpentine (diſſolved in the yolk of an egg) half an ounce;
Linſeed-oil, one ounce.
Mix them together, according to art.

Expreſſio millepedarum.
Expreſſion of millepedes.

Take of live Millepedes, three ounces;
Simple Fennel-water, one pint;
Compound Horſe-radiſh-water, half a pint.
Bruiſe the millepedes, gradually adding to them the diſtilled waters; and afterwards preſs out the liquor.

Fotus.
Fomentations.

Fotus anodynus.
The anodyne fomentation.

Take of the Heads of garden Poppys, one ounce;
Elder-flowers, half an ounce;
Water, three pints.
Boil to the conſumption of one pint; and then ſtrain out the liquor for uſe.

Fotus aromaticus.
Aromatic fomentation.

Take of Cloves,
Mace, each one dram;
Red Wine, one pint.
Boil them a little, and then ſtrain out the liquor.

Fotus emolliens.
Emollient fomentation.

See Decoctum commune.

Fotus roborans.
Strengthening fomentation.

Take of Oak-bark, one ounce;
Pomegranate-peel, half an ounce;
Water which has been uſed by ſmiths for quenching iron in, three pints.
Boil them till there remains a quart of ſtrained liquor, to which add
of Roch Alum, two drams.

Gargariſmata.
Gargariſms.

Gargariſma aſtringens.
Aſtringent gargariſm.

Take of Oak-bark, one ounce;
Water, one pint and a half.
Boil till there remains one pint of liquor after ſtraining, to which add
of Roch Alum, one dram.
Honey of Roſes, one ounce.

Gargariſma commune.
The common gargariſm.

Take of Water, ſix ounces;

Nitre, one dram;
Honey of Roſes, one ounce.

Mix them together.

To this gargariſm are ſometimes added,
of ſweet Spirit of Vitriol, fifteen drops.

Gargariſma emolliens.
Emollient gargariſm.

Take of Marſhmallow-roots, two ounces;
Figs, in number four;
Water, three pints.

Boil till there remains one quart of liquor, which is to be ſtrained out for uſe.

Hauſtus.
Draughts.

Hauſtus diaphoreticus.
The diaphoretic draught.

Take of the Spirit of Mindererus,
Syrup of Meconium, each half an ounce;
Volatile Salt of Hartſhorn, five grains.

Mix them together.

Hauſtus ſalinus.
Saline draught.

Take of Salt of Wormwood, one ſcruple;
Lemon-juice, half an ounce;
White Sugar, one dram.

Mix them together.

Infuſa.

Infuſions.

Infuſum antiſcorbuticum.

Antiſcorbutic infuſion.

Take of Water Trefoil, two ounces;
Oranges, half an ounce;
Boiling Water, two quarts.

Let them ſtand in infuſion for a night in a cloſe veſſel; afterwards ſtrain out the liquor, and add to it
of Compound Horſe-radiſh-water, half a pint.

Infuſum cephalicum.

Cephalic infuſion.

Take of Wild Valerian-root, two ounces;
Roſemary (or Sage) half an ounce;
Boiling Water, two quarts.

Infuſe them together for a night in a cloſe veſſel; then ſtrain out the liquor, and add to it
of Aromatic Water, four ounces.

Infuſum lini.

Infuſion of linſeed.

Take of whole Linſeed, two ſpoonfuls;
Liquorice, ſliced or ſhaved, half an ounce;
Boiling Water, two quarts.

Let them ſtand in infuſion, near the fire, for ſome hours; then ſtrain out the liquor for uſe.

Infuſum pectorale.

The pectoral infuſion.

This is made by adding to the foregoing,
of Colts-foot leaves, one ounce.

Injectiones.
Injections.

Injectio balſamica.
Balſamic injection.

Take of Balſam of Copaiba, half an ounce;
The Yolk of one egg.
Work them well together, and gradually add
of Lime-water, ſix ounces;
Honey of Roſes, two ounces.
Mix the whole well together.

Injectio mercurialis.
The mercurial injection.

Take of Quickſilver,
Balſam of Copaiba, each half an ounce.
Beat and work them together, till the quickſilver is extinguiſhed; then put to the maſs
The Yolk of one Egg.
Mix the whole very well together, gradually adding
of Roſe-water, half a pint.

Julapia.
Julaps.

Julapium ammoniacum.
Julap of ammoniacum.

Take of the Milk of Gum Ammoniacum, four ounces;
Syrup of Squills, three ounces.
Mix them together.

Julapium antihyſtericum.

Antihyſteric julap.

Take of Pennyroyal-water, four ounces;
Antihyſteric water, two ounces;
Tincture of Caſtor, two drams;
Volatile Salt of Hartſhorn, ten grains; or of the Spirit of Amber, one dram;
White Sugar, ſix drams.

Mix the whole well together.

Julapium cardiacum.

The cordial julap.

Take of Alexetereal water, four ounces;
Aromatic water, two ounces;
Saline aromatic Spirit,
Tincture of Saffron, each two drams;
White Sugar, half an ounce.

Mix and make them into a julap.

Julapium diaphoreticum.

Diaphoretic julap.

Take of Alexetereal Water, four ounces;
Spirit of Mindererus, two ounces;
Volatile Salt of Hartſhorn, ten grains;
Syrup of Meconium, one ounce.

Mix them together.

Julapium diaphoreticum acidum.

The acid diaphoretic julap.

Take of Alexetereal Water, four ounces;
Treacle-Vinegar, two ounces;
Tincture of Saffron, half an ounce;
Spirit of Amber, one dram;
White Sugar, one ounce.

Mix all theſe ingredients together, ſo as to make thereof a julap.

Julapium diureticum.

Diuretic julap.

Take of Spirit of Mindererus, four ounces;
Compound Horſe-radiſh-water, two ounces;
Syrup of Marſhmallows, three ounces.

Mix and make them into a julap, to which may be added occaſionally,
of Spirit of Amber, one dram.

Julapium fœtidum.
The fetid julap.

Take of Rue-water, ſix ounces;
Aſa fetida, one dram and a half;

Diſſolve the aſa fetida in the water, and add to the ſolution,
of Antihyſteric water, two ounces;
Diſtilled Oil of Hartſhorn twenty drops, received upon ten drams of white Sugar.

Mix the whole well together.

This julap is likewiſe made without the oil.

Julapium hydragogum.
Hydragogue julap.

Take of the ſimple Water of Camomile-flowers, ſix ounces;
Emetic Tartar, ten grains;
Syrup of Buckthorn, two ounces.

Mix them together.

Julapium moſchatum.
Muſk-julap.

Take of Roſe-water, ſix ounces;
Saline aromatic Spirit, one dram and a half;
Muſk, fifteen grains;
White Sugar, half an ounce.

Firſt grind the muſk with the ſugar, and afterwards mix the whole well together.

Julapium ſalinum.
Saline julap.

Take of Mint-water,
Syrup of Lemons, each two ounces;

Salt of Wormwood, one dram.
Make them into a julap.

Julapium ſcilliticum.
Julap with ſquills.

Take of the ſimple diſtilled Water of Hyſſop, or that of Fennel,
Syrup of Squills, each three ounces.
Mix them together.

Julapium ſiſtens.
Binding julap.

Take of Alexetereal Water, ſix ounces;
Aromatic Water, two ounces;
Strengthening Confection, two drams;
Japan earth, in powder, one dram;
Liquid Laudanum, forty drops;
White Sugar, half an ounce.
Mix all theſe ingredients together, ſo as to make them into a julap.

Lac ferratum.
Milk prepared with iron.

This is made by repeatedly quenching red-hot Iron in freſh Cows Milk, till one fourth part of the milk has exhaled.

Linimenta.
Liniments.

Linimentum anodynum.
The anodyne liniment.

Take of Nerve-ointment, three ounces;

Balſam of Turpentine, one ounce.
Mix them together.

Linimentum hæmorrhoidale.
The hæmorrhoidal liniment.

Take of Emollient Ointment, two ounces;
Liquid Laudanum, half an ounce;
The White of an Egg.
Work them well together.

Linimentum mercuriale.
Mercurial liniment.

Take of Hogs Lard, one ounce;
White Precipitate Mercury, one dram.
Mix them together.

Lohoch.
Lohochs.

Lohoch balſamicum.
Balſamic lohoch.

Take of Sperma Ceti, two drams;
Balſam of Peru, forty drops;
Whites of Eggs, a ſufficient quantity.
Work them well together, till perfectly incorporated; then add,
of Syrup of Marſhmallows, two ounces.

Lohoch commune.
Common lohoch.

Take of freſh-drawn Linſeed Oil,
Syrup of Marſhmallows, each two ounces.
Mix them together.

Lohoch pectorale.
Pectoral lohoch.

Take of Sperma Ceti,

White Soap, each two drams ;
Whites of Eggs, a ſufficient quantity.
Mix them thoroughly together, and then add
of freſh-drawn Linſeed-oil, one ounce and a half ;
Syrup of Marſhmallows, three ounces.
Mix the whole well together.

Pilulæ.
Pills.

Pilulæ ex allio.
The garlick-pills.

Take of Garlick,
White Soap, each half an ounce ;
Millepedes prepared, a ſufficient quantity.
Beat them up into a maſs, according to art.

Every half dram of this maſs is to be made into ſix pills.

Pilulæ piceæ.
Tar-pills.

Take of Tar, what quantity you pleaſe ;
Roots of Elecampane, in powder, as much as will reduce the tar into a maſs of a due conſiſtence ; out of every half dram of which, ſix pills are to be formed.

Pilulæ ſcilliticæ.
Scillitic pills.

Take of freſh Squills,
Gum Ammoniacum,
Leſſer Cardamom-ſeeds, each equal parts.
Beat them together, according to art, into a maſs ; every half dram of which is to be made into ſix pills.

Potiones.
Potions.

Potio balſamica.
The balſamic potion.

Take of Balſam of Copaiba, three drams;
Diſtilled Oil of Juniper, thirty drops;
The White of an Egg.
Work them well together, and mix in
of Fennel-water,
Compound Horſe-radiſh-water, each three ounces;
Syrup of Marſhmallows, two ounces.

Potio lithontriptica.
Lithontriptic potion.

Take of White Soap (the outward part being pared off) one ounce;
Warm Lime-water, one quart.
Stir them together, till the Soap is perfectly diſſolved.

Sera.
Wheys.

Serum acetoſum.
Vinegar-whey.

Take of Cows Milk,
Water, each one pint.
Set them over the fire, and as ſoon as they begin to boil, pour in
of Vinegar, two ſpoonfuls.
Take off the curd which will be formed on the top, and pour out the whey for uſe.

Serum epidemium.
Plague-whey.

Take of Boiling Cows Milk, two pints;
Plague-water made with acid, four ounces.
Mix them together, and take off the curd.

Suppoſitoria.

Suppoſitories.

Theſe are made of common Salt boiled with double its quantity of Honey to a due conſiſtence.

Unguenta.

Ointments.

Unguentum piceum.

Tar-ointment.

Take of Tar,
Suet, each equal quantities.

Melt them together, keeping the mixture continually ſtirring, till they unite into an ointment.

Unguentum ſulphureum.

Sulphur-ointment.

Take of Hogs Lard prepared, two ounces;
Sulphur in powder, half an ounce.

Make them into an ointment.

Unguentum tutiæ.

Ointment of tutty.

Take of Tutty prepared, half an ounce;
Freſh Butter, two ounces;
White Wax, one dram.

Mix and make them into an ointment, according to art.

Unguentum tutiæ camphoratum.

Ointment of tutty with camphor.

Add to the foregoing ointment
of Camphor, half a dram.

This unguent may likewiſe be made with a double, &c. quantity of camphor.

GENERAL INDEX

OF THE

Simples, Preparations, *and* Compoſitions,

Together with the principal Matters contained in the Notes.

N. B. Such articles as have an aſteriſk (*) prefixed, are taken from the *Pharmacopœia Pauperum.* The letter n refers to the notes.

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